

# THE AMERICAN FARMER:

DEVOTED TO

AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

[FIFTH SERIES.]

"O FORTUNATOS NIMIUM SUA SI BONA NORINT  
"AGRICOLAS."  
Virg.

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No. 7.

## JANUARY.

"O Winter, ruler of the inverted year,  
Thy scattered hair with sleet-like ashes filled,  
Thy breath congealed upon thy lips, thy cheeks  
Fringed with a beard made white with other snows  
Than those of age, thy forehead wrapped in clouds,  
A leafless branch thy sceptre, and thy throne  
A sliding car, indebted to no wheels,  
But urged by storms along its slippery way,—  
I love thee, all unlovely as thou seem'st,  
And dreading as thou art!"

This is the season rather of meditation than of action. The time for thinking rather than doing; for bringing the past in review, noting its errors, marking its successes, and gathering and storing up its lessons of experience. We settle up our accounts with the year that is past, and open new ones with that which is to come. We make out our plan of operations for the future. We determine what changes we shall effect, what improvements we may make. Whether we shall work on a three or four or five field system; what crop we will increase, and what diminish; whether we shall have more stock or less; more grain or less; more tobacco or less. All these and a great many other matters the thoughtful man will consider. His fields will be allotted to their various crops, his seeds and manures arranged for, in advance of the time they may be wanted, &c.

## WORK ON THE FARM.

### FARM ACCOUNTS.

Now "take an inventory" of all you have. Determine by a careful and just estimate of your farm and everything upon it, what your stock in trade is worth, and know, *know* whether it has paid you a fair interest upon the investment and sufficient wages for your own superintendence. In such an estimate, the farm is entitled to credit

for house rent and fire-wood, fruit, vegetables, meat, bread, in fine, everything it has furnished for the use of your family. Do not merely give it credit for crops sold, and setting against that the expense of manures, cultivation, &c., come to the conclusion that farming is an unprofitable business.

### WINTER PLOUGHING.

Take any opportunity the state of the weather may allow, to break up your sod land for Corn, Tobacco, Potatoes, &c. On stiff lands the action of frost is useful, and on all there is an advantage in having the work done early. The team is in better condition for hard work now than in spring, and you will be more sure to plough deeply and may do so with less risk of any bad consequence from breaking up the subsoil. Of course at no time is it proper to plough the land if wet.

### TOBACCO.

Make all despatch in the preparation of the Tobacco crop for market. In the work of stripping it should be the care of the master or overseer to supervise strictly the strippers, and see that the various qualities are properly sorted. The material for hogsheds, siding and heading, should be got in readiness, so that there be no delay when you are ready for packing.

### TOBACCO BEDS.

At any time this month when the ground may be fit to work, make sure of getting the most of your Tobacco seed sown. Grounds just taken out of the woods require burning to put them in nice order for Tobacco seed, and brush and old wood being plenty, should be got in readiness at once. Old land is used however without burning, Peruvian Guano being applied largely; say at the rate of seven or eight hundred weight to the acre.

Our old friend, Patuxent Planter, in his prize essay, published some years back, on the culture

of Tobacco, says: "A rich loam is the soil for Tobacco plants. Choose a spot on a south hill side, well protected by wood or shrubbery. Burn thoroughly with brushwood and Tobacco stalks mixed; dig deep, and continue to dig rake and chop until every clod, root and stone be removed—then level and pulverise nicely with a rake. Mix one gill of seed for every ten square yards, with a quart or half gallon of plaster or sifted ashes to every half pint of seed, and sow it regularly, in the same manner that gardeners sow small seeds, only with a heavier hand. Roll with a hand roller or tramp it with the feet. If sown early, the bed should be covered with open brush. The 10th to the 20th of March is the best time, though it is safest to sow at intervals whenever the land is in fine order for working." We prefer the earlier sowing except for a bed of late plants, because the early sown, (say in January,) in our experience, are almost sure to start to grow earlier than seed sown any time in the month of March. Another reason is, that while we not infrequently have the ground in fine condition in January or February, it may be too wet all through the month of March.

#### CARE OF STOCK.

Have all Stock carefully looked to, and that continually. Food enough, and especially water enough, and as often as they may want it—not in one great draught, that will thoroughly chill them, but in small quantities, when they will. Cows and Ewes and breeding Sows should be all well fed during the winter months and have especial care as the time approaches for having their young.

Do not delay until spring, but provide yourself at once with any necessary addition to your working stock.

#### IMPLEMENTS, &c.

Have all implements, carts, &c. put away under cover. Let all be overhauled and repaired, and such new ones purchased as may be wanted.

#### CLOVER AND GRASS FIELDS.

Let no hoof touch the clover or grass fields during winter, or at any time when the ground is wet and liable to be poached.

#### MANURES.

Gather, as you have opportunity, materials for manure. Now is especially the time to avail yourself of all domestic resources. Do not however be misled into the useless labour of hauling more material into the yards than is quite sufficient to absorb all the moisture of the droppings from the stock and keep them comfortably dry. Whatever matter else you may be able to gather should be composted with lime or ashes, if it be

good meadow muck or peat, exposed to the action of frost, &c., and woods' scrapings or other litter may be hauled at once to the grounds where they may be needed and spread upon the surface.

#### LIME, ASHES, &c.

Take advantage of all weather that is good for hauling, to get such fertilizers as these on the land, and have them spread at once.

#### FIRE-WOOD AND FENCE STUFF.

Cut fire-wood for next winter, and get material for fences cut and hauled in place.

## WORK IN THE GARDEN. JANUARY.

There is little work to be done in the vegetable garden at this season of the year. The gardener, like the farmer, should now however be occupied in laying out work for the coming season. The garden and grounds should be the peculiar province of the lady of the establishment, who should make assistants of the boys and girls and have such other labour furnished as may be requisite for her work. At this season it is well to have a plot of the garden and grounds on paper, for the purpose of more readily designing and arranging any improvements, and laying out the work of the coming spring. If a new garden is to be made, or new plantations of fruit or ornamental trees, now is a convenient time for maturing your plans and making all needful preparation.

#### PREPARATION OF THE GROUND.

Should the ground at any time this month be unfrozen and sufficiently dry, it may be dug and manured for the earlier vegetables. Composts, which should have been prepared in advance, are the proper manure for all garden plants.

#### EARLY PEAS.

Some of the earlier peas may be planted, should you find the ground in order for them. After planting, lay, if convenient, some brush wood along the drills, to remain until the peas begin to come up in spring. Under ordinary circumstances, peas will be better and earlier for this early planting, provided, always, the ground is in good order.

#### POTATOES.

These may be planted for early use if you give them a good covering of manure, and litter enough on top of the ground to ensure them against frost.

#### HOT BEDS AND FORCING FRAMES.

If these are to be used, have all necessary materials for them in readiness.

## POLES, RODS, &amp;c.

Get all these in readiness at this time for Peas, Beans and other climbing plants.

## THE FRUIT GARDEN.

Make this month any necessary preparation for planting out Fruit Trees, Gooseberries, Currants, Raspberries, &c.

Prune all hardy sorts, Plums, Cherries, &c. Apply manures around all that need them.—Gooseberries and Currants require to be well trimmed out, to give light and air free access to the fruit.

## THE ORCHARD.

In the orchard the same remarks are applicable as to pruning, manuring and preparation for planting. Those who failed to plant in the fall will now have ample time to make the most careful preparation for setting their Fruit Trees.—Newly planted trees will be better for a covering of litter about their roots, but not so thick as to afford harbour for mice. It is a good time to clean the trees of moss, &c. on their trunks, by scraping the bark and washing with soft soap or any preparation which may be good for the purpose.

## ORNAMENTAL TREES.

If your grounds are deficient in these, by all means supply the deficiency and make your preparations for planting with as much care as to fruit trees.

## THE VINEYARD.

Prepare poles and stakes for the support of vines. Haul manure on the ground. Prepare such ground as you mean to plant in spring.

## THE NURSERY.

Every place where it is expected to cultivate Fruit to any extent, should have a portion of ground set apart as a nursery. The stones and seeds of fruits should be planted here, and seedlings raised to be budded and grafted hereafter. Every boy and girl too, should be taught these interesting and useful arts and to raise their own trees, as the best means of ensuring such as they may want. It will have the good effect, too, of cultivating an interest in fruit culture.

A well cultivated garden is the most profitable part of a farmer's domain.

## Cutting Grafts.

In Tucker's *Illustrated Rural Register*, for 1860, we find the following remarks on the above subject, containing some suggestions which are both timely and valuable:

There is no better time to cut grafts than at the commencement of winter. In cutting and packing them away, there are some precautions to be observed. In the first place let them be amply and distinctly labeled, as it is very annoying to find the names gone at the moment of using them. For this purpose they should be tied up in bunches, not over two or three inches in diameter, with three bands around each bunch, at the ends and middle. The name may be written on a strip of pine board or shingle, half an inch wide, a tenth of an inch thick, and nearly as long as the scions. This, if tied up with the bunch, will keep the name secure. For convenience in quickly determining the name, there should be another strip of shingle, sharp at one end and with the name distinctly written on the other, thrust into the bundle with the name projecting from it. If these bunches or bundles are now placed on ends in a box, with plenty of damp moss between them and over the top, they will keep in a cellar in good condition, and any sort may be selected and withdrawn without disturbing the rest, by reading the projecting label. We have never found sand, earth, sawdust or any other packing substance, so convenient, clean and easily removed and replaced, as moss, in packing grafts. It is needful, however, to keep an occasional eye to them, to see that the proper degree of moisture is maintained, which should be just enough (and not a particle more) to keep them from shriveling. They must of course be secure from mice.

Plum grafts, which are sometimes injured by intense cold, are generally better if cut before the approach of the severest weather, and securely packed away.

## Best Manure for Trees, &amp;c.

In speaking to the question before the Fruit Growers Society of Western New York, held at Rochester, September 22d, "What are the best manures for the apple, pear, and other fruits, and what are the best means to renovate old apple orchards?" W. P. Townsend said that he remembered how the old orchard got all mossy, and his father set him to scrape the bark of the trees. After working a while he got sick of it, and told his father if he would let him take the team and draw some manure into the old orchard he could scrape the trees without injuring the bark. He drew in upon those premises an average of half a load to each tree; next year the bark began to peel, and of course to bring with it the moss, and they increased in vigour. The next summer, turned the hogs in the orchard, and they pretty thoroughly rooted it all over. Even to the tops of the trees the old bark had started, and the body had all the thrifty and vigorous look of young trees. The fruit that used to be half or three-fourths wormy, is now fair, smooth, and free from vermin. By invigorating the trees he destroyed the insects that had destroyed the fruit.

Common barn-yard manure was best for trees. Had tried it for pear trees also. It should be applied in the fall, and then you get the benefit in the next two years' crop. Apply twenty-five loads to the acre every year in the fall.

### Remedy for the Peach Borer.

We find in the *Southern Cultivator* an article from H. F. Grant, of Glynn county, Georgia, in which he gives a "sure remedy against the peach borer," but which is simply nothing more or less than that which we have for many years practiced with our dwarf pear stocks (quince), viz: Remove the earth from around the trunk, say four or five inches, then wrap round the same as far down as is practicable, a bandage of cotton cloth so as to be four or five inches above the ground when the earth is put back, having secured the bandage with cotton twine. This is allowed to remain on, according to Mr. Grant's plan, as long as it is whole, and is then replaced with other. We mentioned that, although never tried, we had no doubt that this bandage method would be equally effective applied to peach trees, &c. We recommended, however, the removal of the cloths about the first or middle of August, and renew them again as early in the spring as the condition of the ground will admit of the operation. We think so still, as there will then be no chance of neglecting to renew when the old bandages are no longer a protection.

We never had a worm in our quince stocks where this remedy was properly used.—*German-town Telegraph*.

### A Cheap and Good Smoke-House.

A Western New York farmer publishes his plan of a small, cheap and good smoke-house, which, as it may contain some practical hints for our own readers, we append it:

No farmer should be without a good smoke-house, and such an one as will be fire-proof and tolerably secure from thieves. Fifty hams can be smoked at one time, in a smoke-house seven by eight feet square. Mine is six by seven, and is large enough for most farmers. I first dug all the ground out below where the frost would reach, and filled it up to the surface with small stones. On this I laid my brick floor, in lime mortar. The walls are brick, eight inches thick, and seven feet high, with a door on one side two feet wide. The door should be made of some wood and lined with sheet iron. For the top I put on joists, two by four, set up edgewise, and eight and a half inches from centre to centre, covered with brick, and put on a heavy coat of mortar. I built a small chimney on the top in the centre, arching it over and covering it with a shingle roof in the usual way. An arch should be built on the outside, with a small iron door to shut it up, similar to a stove door, with a hole from the arch through the wall of the smoke-house, and an iron grate over it. This arch is much more convenient and better to put the fire in, than to build a fire inside the smoke-house, and the chimney causes a draft through into the smoke-house. Good corn cobs or hickory wood are the best materials to make a smoke for hams. The cost of such a smoke-house as I have described is about \$20.

### Fish—Their Cultivation, &c.

"Law sakes alive," says some Mrs. Partington: "here's a man that's going to tell us how to plant and raise fish in our gardens just like other truck." No, good woman, I shall not tell you all this, yet I will tell hundreds and thousands of you how to raise your own fish. Cultivation means something more than plowing, harrowing and hoeing, and may well be applied to the raising of fish, and, perhaps, I cannot better instruct you in this art, than by describing what I lately saw right here in South Carolina.

During my late visit to Sumpter, I was shown all over the plantation of my friend Freeman Hoyt, Esq., and here I met with a perfect model of a domestic fish pond. Mr. Hoyt told me that the little stream of water running through this place was the main thing that sold him the land. The branch ran through a low place of such a form, as to enable him, by a dam of some fifty yards long, to construct a pond of 700 feet in length, by 150 in width, with a depth varying from the shores, to 12 or 15 feet in the centre. This gives him a pond of over 24 acres, where he could raise nothing else. One year ago, in the spring, he deposited in this pond eight good sized trout, and near three hundred thousand eggs, with a large amount of smaller sized fish, for the trout to feed upon, and he now has the water literally swarming with the finny tribe. His trout are now one year old, and I caught one while there that was over seven inches. Mr. Hoyt will not catch his trout until next year, and then I think he will almost be able to supply the town of Sumpterville with fish. The water running from his dam passes through a sieve so that the fish cannot escape from the pond. A little below the dam is built a small two-story house, the lower story for bathing, while in the upper one is kept all the apparatus necessary for cultivating, feeding and taking the fish. All this convenience has been gotten up with a trifling expense, and will be, in the future, a large source of pleasure and profit to Mr. Hoyt and his family, and a perfect blessing to his neighborhood. We all eat too much flesh in this country, and should endeavor to substitute, for some of it, more fish and fowl.

There are hundreds of places in this State where just as good a pond as the one I have told of, could be built, and the owners not only well supplied with good fish right from the water, but they could derive a good revenue from their neighbors by selling them the proceeds of their pond. A learned doctor of England said "that a long life in this world merely learned a man how to live." I wonder how many lives it would take in South Carolina, to learn the people to live up to the privileges that nature has bestowed upon them. Everything must succumb to cotton, if we eat nothing but hog and hominy. Will no other money pass but what is made by cotton, and must the country be thus sacrificed? Those that have the means and facilities must answer.—*Laurensville (S. C.) Herald*.

When we are alone, we have our thoughts to watch; in the family, our tempers; in company, our tongues.



[For the American Farmer.]

**Reply to R. T. Baldwin.**

Our eccentric theorist, R. T. Baldwin, of Winchester, is out in the last number of the *Farmer* with his theory of *shade*. He has been in the practice for several years of enunciating once in a while this hobby of his, but he very prudently declines to answer the objections urged against it, or to present the grounds of his conclusions. He seems to think, or at least it would appear to be a legitimate conclusion from his action, that every body should receive his conclusions as science, whether they are made acquainted with its principles or not. This is asking a little too much in this age of inquiry. We want to know the *why* and the *wherefore*, the rationale of the thing, before giving our unqualified consent.— Were he to give his practice, and the results with the attending circumstances, common farmers could understand it and would care little about theory; but when he merely states theory without giving his practice, and that too running foul of theories that appear reasonable, he manifests a disposition not very creditable to one who desires to improve the agriculture of his country. There is room for all, and all should strive to exert his talent for improvement; and there is nothing that would be of more benefit in this thing than a free and unreserved intercourse and communication with each other, giving each other credit for whatever could be verified by experiment, and pressing no theory that could not be thus proven. There are so many conditions and circumstances connected with the cultivation of the soil, that it is absolutely necessary to consider well their condition and circumstances before we can come to correct conclusions.

Dr. Baldwin in his essay brings forward the different opinions of farmers in relation to the effect of ploughing under vegetable matters, but it is more than probable that this difference of opinion was the result more of a want of noting circumstances than any thing else. In the spring of the dry summer of 1854, one of my neighbours ploughed up a field for corn, having a very heavy grass sod, and on which a large quantity of winter feed had been given to cattle the two preceding winters, a condition usually considered the very best for a large crop of corn; but what was the result under the circumstances? There were light showers in the early part of the season, enough to make the corn grow rapidly till about harvest, but not enough to settle the sod compactly on the bottom of the furrow so as to leave no cavities beneath the growing corn. The consequence was that the long continued drought allowed these cavities to be filled with dry air, and thus dry up the ground around the roots, as they cannot grow in cavities, and thus stopped the growth about the time for the shoots to come forth, so that there was hardly one-tenth of a full crop of corn. Now are we to conclude that such a condition of soil is not good for corn? By no means; our experience teaches the contrary.— Even the very best of manures, if ploughed under in large quantities previous to dry weather, have been injurious to the first crop, but who would recommend from this not to use manure.

It is of but little importance to practical farmers whether "these contradictory opinions" are ever "definitely settled" by science, or whether it

can demonstrate the true character "of the decomposition to which they are subject, or the qualities of the product;" what they want is fact, and they can make their own deductions. And it may be suggested to Dr. Baldwin, that, before he can arrive at correct conclusions, he must seek for more than "the few opportunities offered to my (his) observation," as he says; he must vary his opportunities and examine the subject in all its bearings, or he will find reason often to conclude, "this opinion I now deem erroneous," and even then he will not be sure he is right. Common observation teaches us that those who are most likely to be right, are those who make but little claim to being so. He considers the "idea is purely theoretic," "that the fertilizing qualities of leguminous plants, such as clover, peas, &c., are derived from the atmosphere during their growth," because "it cannot be proved that the atmosphere contains any fertilizing principle whatever." Science has again and again proven, that the air contains carbonic acid gas, and ammonia, and that these are within reach of the plant during growth, and until the Dr. shows where plants obtain carbon and nitrogen from, unless from the air, he must not expect us to believe his assertion, "that the atmosphere contains no fertilizing principle whatever." And are not these "substantial food" for plants. He should provide a theory for us before tearing ours to pieces. We don't like to be turned out of doors before another hut is provided for our accommodation; it is ungenerous.

The Dr. asserts plainly that the "opinion is erroneous," that "the fertilizing results obtained from ploughing under vegetable matter is due to their decomposition, that is that they are converted into manure," and says "the soil is not fertilized by ploughing under vegetable matter of any kind, provided it be ploughed in a soil upon which it did not grow." We must have something more than mere opinion to sustain these assertions. Some of us must have been grossly deceived if we have received no benefit from "ploughing under vegetable matter." We consider we have had ocular demonstration of the fact, and are inclined to give but little credit to those who make such assertions. He admits "that all vegetable substances if saturated with water or mixed with lime or ashes are converted into manure when ploughed under," but considers "that they do not form manure under ordinary circumstances." Now what is this but to undo all he has said on the subject. We all know, and the Dr. will not deny the fact, that "vegetable matter ploughed under" does become "saturated with water;" and what is the difference in decomposition, whether this takes place above or below ground. Again, we know that all our soils contain lime and alkalies, and may not these promote that decomposition known as putrefaction, which the Dr. considers as leaving "a fertilizing residue." The "process of fermentation" that leads to putrefaction he considers "requires both heat and moisture," and "the vegetable matter ploughed under 'do not experience the process.'" Here again we want evidence. Gardeners know that vegetable matter, say tan bark for instance, on being covered up with earth and perfectly moistened, will of itself generate heat, and they know, too, that when the heat subsides, as it will in

time, it may be renewed again by simply moistening the bark with a solution of some albuminous matter, say of glue or something of that kind. Does not this vegetable matter "experience the process of fermentation" in this instance, and is not this similar, except in degree, to that produced by "vegetable matter ploughed under."

The Dr. makes a distinction, if I understand him, between the more rapid "process of fermentation" where large quantities of vegetable matter are heaped together, and the slower process of decomposition in small portions of such matter, technically called "eremacausis," or slow combustion. The former generates heat and gives off ammonia in large quantities, if the vegetable contains albuminous matters more particularly, while the heat in the latter is not sensible, yet who will say there is none generated. We may take a large lump of fresh lime and on applying water very sensible heat is produced, but if we separate that lump into very small pieces and wet each piece separately, we may not be able to perceive the heat generated; yet it would be rash to say the same amount was not produced. Philosophy teaches us that nothing is lost; in decomposition or putrefaction matter makes only a change of combination and becomes sensible under different forms.

That the assertion of the Dr. that "ordinarily vegetable matters do not experience the process of fermentation," (if by that he means that they do not form manure without they do so,) is disproven by the fact of the richness of woods-earth, where leaves have decayed. They there do not undergo the process of fermentation, but simply decomposition, and yet they add greatly to its richness.

In his concluding sentence he says, "I have arrived at the conclusion that all vegetable substances when ploughed under, and thus deprived of a contact with air, are decomposed by a peculiar process unknown to science." "Substances when ploughed under" are not "deprived of a contact with air," for air penetrates the earth to all depths where it is not saturated with water, however deep that may be. But here is the gist of the whole matter: "I have arrived at the conclusion (very modest indeed, not certain,) that it is so, that all vegetable substances so situated are decomposed by a peculiar process unknown to science." Now, come Dr., out with it, let us have the rationale of this "process;" do not ignore science; there must be some of its processes that can aid this great secret, if it is true. Explain it by terms we all know the meaning of, but don't use terms with new meanings without explanation. Don't be like humbug Prof. Comstock, pretend to a secret that nobody knows but himself and those he has instructed, and refuse to instruct any, unless they sign a pledge not to divulge it. Come, Dr., I speak in earnest. I have before invited thee to give thy experience in farming, to let us see the rationale of the process, so that we might form our own conclusions and profit by them. I have invited thee to answer the objections to thy propositions, but no response has been given, no answer made in any way. I now in the name and behalf of agriculture demand it of thee, and dare thee to explain the principle of thy "conclusion;" dare thee to show the rationale of the matter. Thou

hadst insisted that scientific men were not correct in their conclusions, and yet thou hast not attempted to show wherein they were not correct. It will not do in this time of day to imitate children's contradictions and say "it is so" and "it aint so," we want something consistent with reason and common sense.

YARDLEY TAYLOR.

Loudon Co., Va., 12mo., 8th, 1859.

### Sorghum for Hog Feeding.

MONTPELIER, HANOVER CO., VA., Dec. 10, 1859.

To the Editor of the American Farmer:

I have read in several papers from various parts of the North and West, the pall eulogy upon Sorgho, and in your excellent paper, that is fast becoming one of the "institutions" of Virginia, the enquiry, "where is Sorgho?"—rather significant that you have consigned it to the cemetery. Like everything else that goes into bad hands, Sorgho, only in such, has failed to be useful and profitable.

Last spring my father appropriated one acre to its culture, in drills two and a half feet apart, and six inches apart in the rows, which he cultivated after the manner of Indian corn. About the 10th of August he commenced feeding a lot of 12 hogs upon it, then in low order, and they regularly improved till the 1st November, without any other feed, when it gave out—leaving all the hogs thus fed in excellent condition. They have been maturely fattened for killing, with boiled corn, (as recommended in your paper,) with the most satisfactory results. It was with many doubts of its utility and economy, that he tried it, being one of the many who wisely look with suspicion upon new things—but a short corn crib put him on the alert for a substitute, and the one tried (Sorgho) firmly convinces him, myself, and many others around him, that the acre of cane saved him an expenditure of \$75 for corn, that he would have, without it, been compelled to purchase.

This little experience I seek to lay before the public, through your courtesy, in the pages of the *Farmer*, that the funeral of Sorgho may not be prematurely preached—but in this I can pertinently remark, that it will be folly in all to try it, of that class who believe that it can be successfully raised without a good preparation and industrious attention.

As a class, farmers have been, from long, hereditary habit, content to farm by guess, while other professions, less complicated, have demanded literature to guide them on to success. No farmer would employ a self-assumed legal man to defend him in a hustings' court, or a quack doctor to treat a bunion on his fifth toe, while he too frequently confides his own prosperity to hands as ignorant and pompously visionary as "General Brown's" upon Martial Jurisprudence. Give us solid and practical literature upon agriculture; give us the old, time-honored *Farmer*, that's loyal to man and his inheritance, and let us follow its general purport, and it will not be long before all will be shown the bright side of literature and the opaque side of guess work.

This is my debut on agriculture—please excuse deficiencies. Yours truly,

JNO. L. PATTERSON.

[For the American Farmer.]

**EGYPTIAN GOOSE**—(*Aegyptiacus Anser*).—The bill of the Egyptian Goose is as long as the head, slender, nearly straight, rounded at the tip and laminated on the margin. The upper mandible is slightly curved, the nail hooked, and the lower mandible flat. The wings resemble those of the Spurwing Goose, on the bend of the wing or wrist of which is placed a strong white horney spur, about five-eighths of an inch in length, turning upwards and rather inwards. The sexes are nearly similar; there is a narrow edging of feathers around the base of the bill, a line running nearly straight from the edging to the eye, and a larger patch surrounding the eye of a chestnut hue. In the middle of the breast there is also a patch of dark chestnut; the rest of the under parts of the body, from the slight collar to the thighs, is of a pale buff, with fine irregular, transverse, blackish brown lines; legs and feet flesh colour. This rare and beautiful bird is a native of Egypt, and large flocks are found haunting the banks of the Nile. This handsome species breeds freely in confinement, and is often seen in the aviaries of those who take pleasure in ornamental birds.

**GOLDEN PHEASANT**—(*Aureus Phasianus*).—Crest yellow; feathers of the occiput brown, variegated with black lines; body golden yellow above, scarlet beneath; secondary quills blue; tail concealed. Length about two feet nine inches. The female is not only smaller, and has a shorter tail, but the whole of her plumage is less gay and splendid. The young males resemble the females, and are not invested with all the richness and brilliancy of their attire till the second moulting. The females, on the other hand, at the age of five or six years, sometimes put on the male plumage. Early in March the female deposits her eggs, which resemble the eggs of the Shanghai fowls; they feed on rice, hemp seed, wheat and barley, and they will also eat cabbages, herbs, fruits, but are particularly fond of insects. The Golden Pheasant is a native of China, from which they have been imported by the writer. The parks and aviaries of Europe contain the Golden Pheasant, one of the most beautiful of the tribe.—Owing to the shortness of its wings it flies heavily and but a small distance at a time, yet when these birds are in the constant habit of being attended in the aviaries by a keeper, they will come to feed the moment that they hear the whistle; they will follow him and scarcely allow the food to pass from the bag he holds in his hand. They are fond of corn; they lay from seven to fifteen eggs. Incubation lasts from twenty-three to twenty-four days, and as soon as the young break the shell, they follow the mother like chickens. About one-third of the young race never attain to full growth, for several fall a sacrifice to the first moulting. They will breed with the common fowl, but their offspring is infertile. Mr. Thomas Winans has them at his beautiful villa in the city of Baltimore, promenading his handsome gardens.

**BARR PIGEON**—(*Uncus Columbo*).—The whole colour ochre yellow; head very large; bill very blunt, short and broad, of a carmine colour; a large, naked, tuberculated space around the eyes, of a deep pink colour, the size of a dime. This

rare and elegant bird is a native of Morocco, West Barbary, and is found in the gardens of the emperor, which are situated in the midst of a beautiful valley formed by a chain of mountains on the north and those of the Atlas on the south and east. The imperial palace, which faces Mount Atlas, has three gardens attached to it, abounding in the richest fruits and most fragrant flowers, and ornamental birds in aviaries, with their breeding boxes, and trees all in the most perfect and natural way that can be made by man. A pair of these rare pigeons were obtained by the writer at the Metropolitan Exhibition of Rare Birds, in London, in 1856.

**PORPHYRY PIGEON**—(*Porphyrea Columbo*).—Head, neck and breast bright pink; chest band white and black; abdomen ash; the back and wings green; the vent bright olive; tail deep green; beneath, two shades of gray; from fifteen to sixteen inches long. This is one of the handsomest of the pigeon family, and very rare in its native haunts. The Indians pluck its feathers and ornament their heads with them. This elegant and beautiful bird is a native of the Molucca and Sunda Islands. They are easily tamed and live very healthy in aviaries, building and raising their young like others of its species.

**ARCHANGEL PIGEON**—(*Archangelus Columbo*).—Head, breast, back of the neck down to the wings, light mahogany colour; abdomen same; wings, tail and back brown; bill and feet pink; size of the common pigeon. The Archangel is a native of Archangel, North Russia, breeds well in aviaries, and is a great favourite in Russia. During the holidays of the peasantry on Easter, they go to the market to purchase dogs, singing birds, peacocks, fire-arms and curious pigeons. Birds and pigeons are their principal articles; the Archangel is their delight. The nobles of Russia have them trained by their feeders to fly and return at command.

**OCOTZIMTZEAN PIGEON**.—This beautiful bird is one of the most splendid tenants of the Mexican forests. It is covered with purple, green and yellow plumage. To describe such birds, the historian's pen is not half such a useful implement as the painter's pencil. The true pigeons are found in most parts of the world, and in some they multiply to an enormous extent; they have more musical voices than the generality of the Gallinaceous birds, although their vocal powers are not great. The wood, the mountain, the barren waste, the craggy rock, the marsh, the lake and river are never searched in vain; each has its peculiar inhabitants.

J. JACOB BOWER.

Rats are a species of tenants that outwit their landlords; they will sometimes shun all baits and traps. As many modes of getting rid of them cause them to die on the premises, and taint the atmosphere, or are dangerous to human life, it may be well to remember that if the centre of a cage is sprinkled with a few drops of the oil of rhodium, (a species of *convolvulus* from the Canary Isles, fifty pounds of the root of which yield one pound of the essential oil, according to Lindley,) multitudes are irresistibly attracted to the spot, to be disposed of at will.—*Ex.*

### Feeding Farm Stock.

We find the following interesting and able article in our excellent exchange, the *Genesee Farmer*. Mr. Harris, the editor, is a chemist himself, and has, with much earnestness and ability, sustained the views of Lawes and Gilbert, as opposed to those of Liebig, in the great controversy on the mineral theory of the latter. While we do not agree with him as to the conclusiveness of their experiments, we present the following paper to our readers as containing very interesting views of the relation of carbon and nitrogen, or rather of carbonaceous and nitrogenous substances to the feeding of farm stock, and to the rotation of farm crops:

All know, in cleaning land, what a small amount of ash is left as the residuum of the mighty forest. Carbon, or charcoal, exists in the vegetable kingdom in much larger proportion than any other element. Nitrogen is found only in very small quantity, yet its presence is absolutely necessary. No vitality or organization is found without it. There are many substances in vegetables that do not contain nitrogen, but they are not integral portions of the plant. They are merely vegetable deposits, corresponding with the deposits of fat in the animal organization. These deposits, such as starch, sugar, gum, etc., are destitute of nitrogen, and are composed of carbon and the elements of water. They are therefore called carbonaceous compounds. Those substances which contain nitrogen—and every vital part of a plant and animal does contain it—are called nitrogenous substances. They are composed of all the four organic elements—oxygen, hydrogen, nitrogen, and carbon—united in definite proportions in all plants and animals.

If we take a piece of carbon, or charcoal, and burn it in a stove, it gives out an amount of heat proportionate to the amount burned. The carbon of food, when taken into the animal system, is burnt in precisely the same way as that in the stove, and gives out exactly the same amount of heat. It is well known, that when any heated body is surrounded with colder substances, the heat will fly off from the heated body, till all become of an equal temperature. And it is also well known, that more fuel would be needed to keep a stove at a given heat, when exposed to a cold temperature, than when in a warm one. An animal is affected in this respect in precisely the same manner as a stove. The temperature of the animal body is the same at the North pole as at the Equator, when at a blood heat temperature, as when in an atmosphere 40° below zero. It must be, therefore, that this body is heated from within; and that the colder the air, the more heat must there be produced, and consequently the more carbon must there be burned in the lungs to generate it. Hence it is that in cold weather we eat much more food, and that of a more carbonaceous character, than in hot weather. Warmth, to a certain point, is equivalent to an increase of carbon in the food.

The nitrogenous substances of vegetables are precisely the same in composition as the muscles or flesh of animals; and it is supposed that the

nitrogenous substances of vegetables are converted into flesh without decomposition. Hence the assertion by many able chemists, that the nutritive quality of a food is in direct proportion to the amount of these nitrogenous or flesh-forming substances. Bousisingault, the most reliable agricultural chemist in the world, has given tables of equivalents, founded on this principle. According to them, peas contain three times as much nitrogen as maize, and is consequently three times as nutritious. Bran, too, is much more nutritious than the finest wheat flour; while an immature corn stalk would be more nutritious than one perfectly elaborated. The experiments of Lawes and Gilbert throw much doubt on the correctness of this theory. One thing at least is demonstrated—that the amount of nitrogen a food contains in no way regulates the amount consumed by the animal. Thus, a hog will eat as much peas as corn; while in the one case he will eat three times as much nitrogen as in the other.

We arrive at the conclusion, that the amount of food an animal will consume, other things being equal, depends upon the amount of available carbonaceous substances it contains, irrespective of the nitrogenous. This was invariably found to be the case throughout a very extensive series of experiments. To give more for 100 lbs. of bran than for 100 lbs. of flour, because it contains more nitrogen would not be wise. Neither would it be economical to give three times as much for a bushel of peas as for a bushel of corn, because it contains three times as much nitrogen; for though the animal will increase somewhat more when fed on peas than on corn, yet he will eat till he has obtained the necessary amount of carbonaceous matter, and of which corn contains much more than peas. The fact is, that nitrogenous substances are in excess of the available carbonaceous. Otherwise, why is it that we strip the nitrogenous bran from the starch of wheat? Why is it that we churn so much milk for its carbonaceous compound—butter; while its nitrogenous matter, casein or curd, is given to the hogs in the buttermilk? Why is it that we eat so much fat meat and pork? How is it that sugar has become a necessary to nine-tenths of the world; and that rice and tapioca are found in every household? All these substances contain a large amount of available carbon, and little or no nitrogen. For feeding purposes, a food is valuable in proportion to the amount of available carbon it contains; yet the more nitrogen it has united with this carbon, the greater will be its fattening quality.

A natural conclusion, from these facts, would be to grow those plants, as food for animals, which contain the most available carbon; or, in other words, the most starch, sugar, oil, etc.

But agriculture is a complex art. We must be careful how we jump at conclusions. In Mr. Lawes' wheat experiments, systematically continued on the same soil for fifteen successive years, the most important fact demonstrated is this: *The wheat plant, during its growth, destroys ammonia.* That is to say, that much more ammonia is required to produce a crop of wheat than the entire crop of grain and straw contains when fully matured. It was found, in several hundred experiments, that an application of ammonia in-



crossed the crop up to a certain point, dependent on climate influences, in proportion to the amount supplied; but that about five times as much ammonia is required to produce a given increase of wheat than it contains when grown.

Mr. Lawes' experiments on turnips, peas, beans, clover, etc., show that these crops do not destroy ammonia during their growth; and that if sufficient available inorganic matter be present, they can obtain sufficient ammonia for an average crop, from the atmosphere. Whether corn, oats, barley, timothy, and other cereals, destroy ammonia, is not yet proved, but it is highly probable. Let us admit that these cereals, like wheat, destroy ammonia during their growth, and that peas, beans, clover, lentils, etc., do not, and see how it affects the subject of rotation.

On a farm, then, where wheat, maize, barley, and oats, are grown, as well as timothy and other grasses, for feeding purposes, it must be evident that there is an immense destruction of ammonia; and that if we are to obtain large crops, large quantities of ammonia must in one way or other be placed in the soil. The cheapest way, under most circumstances, of increasing the ammonia on a farm is, by growing those crops which do not destroy it during their growth, but, on the other hand, retain that which is brought to them in rain from the atmosphere.

At least one-half the dry food given to an animal is consumed in the production of animal heat, and escapes as carbonic acid and water in breath and perspiration. The nitrogen of the food, however, is not given off in a gaseous state, but, except a small portion, retained in the increase of animal, is all thrown out of the system in liquid and solid excrements, the former containing often six times as much as the latter.

A crop of clover, in root and branch, often contains 80 lbs. of nitrogen, the greatest part of which is probably derived from the atmosphere; and this clover, plowed in or eaten on the farm by animals, would furnish 80 lbs. of ammonia for a wheat, corn, or timothy crop, which would be increased accordingly. This 80 lbs. of ammonia can not be purchased in an artificial form for less than \$12. A good average crop of peas contains about as much nitrogen as the clover, and, like it, obtains most of it from the atmosphere. The same can be said of turnips, mangels, beets, carrots, beans, tares, &c.

It will be seen, then, that while maize in one sense is much more nutritious than peas—containing more available carbon—yet this nutritious quality is produced at such an expense of the ammonia of the soil, that it can not be grown for feeding purposes, unless a high price is obtained for the meat. Peas, though in one sense less nutritious, have been produced at so little expense to the soil, as compared with corn, and besides contain so large a quantity of nitrogen, that their growth and consumption on the farm can not fail to be comparatively profitable. The comparison between timothy grass and clover is equally, and for the same reasons, unfavorable to the growth of timothy for the purpose of feeding to animals on the farm. Not only does it contain less nitrogen, but it has consumed much ammonia during its growth. If this is correct in theory, it cannot be far wrong to say that the average yield of wheat, maize, barley, oats, and

timothy, on any farm, will be in direct proportion to the quantity of clover, peas, turnips, etc. raised and consumed on the farm.

### Grass Better than Grain.

Mr. Johnston says, in the *Rural* of Nov. 5th, "If every farmer would feed each of his sheep one bushel of corn, or 60 pounds of oats, buckwheat or barley, (whichever he found cheapest,) during winter, with good straw, even, for fodder, they would pay him better for the grain, by far, than if he were to carry it to market and sell it for cash. But if he would feed each sheep 90 pounds of corn, or other grain, they would still pay him better for the grain—they would yield him double the wool to what they did when he fed no grain—they would raise him double the number, and much better lambs."

That assurance was given about election time, when experience has taught mankind that a certain tinge of vagueness and uncertainty attaches to human affairs. I have some Merino ewes which have sheared *six pounds* of wool, and brought from one to two lambs, without being fed any grain. Am I to understand that feeding them "90 pounds of corn" this coming winter, will make them shear *twelve pounds* of wool, each, and raise from two to four lambs apiece? I endorse most heartily the opinion that frequently it will pay to feed sheep 60 pounds, and even 90 pounds, of grain each during the winter; but I am of opinion that no *universal rule* can be adopted as to the amount of grain which it is expedient to feed.

An abundance of good, sweet, nutritious grass will put sheep in good order in the summer time, and the *best of hay* and the *best of care* will keep well-formed, hearty, middle-aged sheep in good condition through the winter. I have seen sheep wintered on hay alone (with plenty of water) that were as fat as it is profitable, in my judgment, to have sheep. I believe there is such a thing as breeding animals too fat. My father was in the habit of selecting choice portions of white clover, red clover, and fine upland timothy, which he cut early and cured carefully for his sheep. He fed rather abundantly, and made the big colts and steers eat the "orts" or leavings; he claimed that he could keep his sheep in good order in this way, and *he did it*. It was not uncommon for his half blood Merino wethers to have twenty-five pounds tallow the fall after they were three years old, fattened, on grass. He insisted that "good pastures are indispensable to good farming"—that whoever neglected to get their stock in good order on pasture, had missed a golden opportunity. I have known cattle gain in winter on hay; but, in general, if stock is poor in the fall, particularly sheep, it requires grain to keep them along and make any improvement. I admit—I assert—I insist—nay, I insist with emphasis, that stock of any kind pays better if kept well than if kept poor; but there is one thing which Mr. Johnson did not say in his excellent communication above referred to, which should never be lost sight of: *every art and every science should be exhausted in getting animals up in good condition before grain is resorted to.*

Mr. Page, of Wyoming, drives fat horses—Mr.

Page does not feed grain—Mr. Page considers horses that eat a good deal of grain, on the highway of ruin. He buys a horse accustomed to a forced and artificial life, viz: a half bushel of oats per day; he puts the horse aforesaid on grass (Graham) diet; the horse grows poor—"you thought he would?" you miserable!—*after twelve months he grows fat*, and Mr. Page, in his quiet way, will explain to you that you can do a good fair day's work every day with your team and feed no grain, if you will be *right and regular* in your management, and so add five to ten years to their life.

You buy a buck of Messrs. Block, Corn & Co., of Vt.; you have prudent notions; you feed him only two quarts of grain per day. Firstly, he grows poor. Secondly, he dies.

I am bad in that department, but I believe naturalists do not put our farm stock generally into the class of *granivorous* animals, (feeding on grain,) but in the department of *grannivorous*, (living on grass.) I don't care a snap for the naturalists—what did I call them?—any way, I know, and every body may know, that the *sheep and goats* that for ages climbed the rugged hillsides, the *bulls and bison* that roam the western wilds or the eastern plains, the horses of the desert or the prairie, must through long centuries have descended from ancestors that had no regular supplies of grain to draw upon, and from the necessities of the case their constitutions, their habits, their *very natures must have been formed from and adapted to the HERBAGE they lived upon*. We innovate at our peril. The best anybody can do is to look and learn. Observe the order of nature. If young animals of any kind can be made to grow on fresh, sweet, nutritious grass and hay, with the addition of apples, roots, &c., with little or no grain, it seems better for their subsequent health and longevity if they are early accustomed to the "*stimulus*" of grain.—It often, very often happens, that stock is left through neglect, in the hurrying season of haying and harvesting, in pastures so short that they go back irreparably, and the same thing or worse is suffered to occur when animals remain in fields covered with frosts and early snows, but *utterly stripped of vegetation*, just before "foddering begins." In this way they frequently go back in three weeks more than they can be made to gain in six weeks by the largest amount of grain that could be given to them. The moral of all this is, that stock should be kept up, *without grain if you can, with grain if you must!*

It is proper that I should add, that whatever objections may be made to feeding store animals, and particularly young animals, largely on grain, the objection does not apply to stock intended for slaughter within a year. Sheep or cattle to be butchered the coming summer will produce more and better meat if they are liberally fed on meal the coming winter, and very likely they may be sold in an *early* market, where they will bring a third more than if kept till fall to fatten on grass. The subject is so large, every way, that I will continue it in a subsequent number.—*Correspondence Rural New Yorker.*

## Feeding and Care of Stock in Fall and Winter.

A wise providence has ordered that the autumn should be, the world over, the period of most convenient and rapid fattening. The average temperature is indeed the same as in spring, and the food may be the same or nearly the same; and yet, the fattening process never does go on so well, except under the most artificial circumstances. The weather has much to do with this. The gradually increasing cold gives an appetite and relish for food, while the increasing warmth of spring produces the opposite effect, which even the first taste of the fresh grass cannot counteract. The coat is shed and renewed in spring, so that the animal is keenly sensitive to changes of temperature. Grain well kept till spring is said to be more easily digested and more nutritious than when fed early in fall. This may be; and doubtless also, pound for pound, hay is better for being stored, if well cured and well kept. Changes go on in various kinds of food, root crops as well as grains, by which some of the woody fibre becomes more readily digestible, and starch and gum are converted into sugar. Some roots, it is true, become, especially if they sprout, more fibrous and corky, hence less nutritious and less fattening. Autumnal grass, on the contrary, is much more nourishing than the early growths of spring and summer, when the plants are doing their best to place themselves in the best possible feeding order, so that when in order to perfect the seed, great demands are made upon root, and leaves and stalk, they may be in condition to meet it. After this necessity is passed, and the seed matured, the after growth possesses a sweetness and excellence which the most casual observer can hardly fail to notice. The sweetening of food by frost is proverbial. The coats of most animals gradually thicken and fill up with a soft growth of hair as cold weather draws on, and the tax upon the system is so slight as not to be noticed at all.

Almost all things, not including the abundance of grain in the fall, combine to render it easy for animals in a state of nature to prepare a good store of fat for winter use. Under artificial treatment all animals should be put in high "store" condition in fall, and then motives of policy should induce their being kept so. Warm, well ventilated stables, the least possible exposure to the cold, an airing of an hour or so in pleasant weather, and good food, including a reasonable variety, which promotes an appetite and causes the food to go farther, will insure, at the least possible expense, a good wintering, and bring stock out at the end of the season in prime order for bearing healthy, valuable young, for the hard work of the spring, or for readily laying on fat in the summer pastures.

Winter fattening of beef and mutton, if they are kept as we have said, proceeds rapidly, and may be most economically followed. Fattening animals should enjoy but a limited prospect beyond their mangers or pens, especially if a large number of them are together, for any little disturbances attract the attention of all, and setting them on the alert, keeps them in an excited condition, unfavorable to the end sought, namely, fattening. Sheep do better in a pretty dark place.—*Homestead, Hartford.*

We bear the marks of our habits, as the prisoner does those of his chain.

### Stock-Feeding.

Of the various methods employed by the farmer for the purpose of realizing a profit on his agricultural produce, that which refers to the fattening of stock is especially deserving of his attention. The season having arrived when the free use of roots are employed for this purpose, it will be found that a limited supply of turnips, with oilcake at the rate of two pounds per day, will bring the animals forward quicker than upon turnips alone. It is important to be able to determine how this process may be carried on according to those principles best adapted to the constitution of the animal and advantageous to himself. This process will be considerably hastened or retarded, in proportion to the different substances used for the purpose. In supplying feeding cattle with food, it is necessary that the amount supplied shall contain a sufficient quantity of nutritive matter.

The nutritive value of turnips may in a general way be estimated according to the amount of nitrogen which they contain. From analyses we may gather that the very best kinds do not uniformly contain a very high per centage of nitrogen, and we cannot, therefore, determine the nutritive qualities of these roots by the amount of nitrogen which they contain; but we can compare them with other substances suitable for fattening cattle, and may thereby judge of their nutritive value. When compared with rape-cake, oilcake, and cotton-seedcake, the per centage of water in white globe turnips may be on an average stated thus: 91.41, and of flesh-forming matters 1.35. In rape-cake the per centage of moisture is 10.68, flesh forming matter 29.53; in oilcake the amount of water is 12.44, and in cotton-seedcake 11.19; while we find that the flesh forming matter of oilcake is 27.28, and that of cotton-seedcake 25.16. A glance at these figures will show us the superior nutritive qualities possessed by the various cakes over the turnip in those parts of its composition to which we have referred. But inferior as it is in its nutritive qualities, we cannot dispense with it as a food for feeding purposes, since we have known fat stock of the best quality produced from the use of Swede turnips and oat-straw. The stock to which we here allude were fattened not on turnips alone, as they had attained to that state of condition which might be called very good on grass previous to their being put upon the turnips. In the feeding districts of Scotland, where the turnip is found to possess a greater amount of nutritious qualities than in more southern districts, the process of fattening has been known to be carried to a wonderful extent by the use of turnips and oat-straw only; but the process of feeding according to this method must necessarily be prolonged. To accomplish it in the shortest possible time is a consideration with the feeder. In order, therefore, that the oilcake may produce the largest effect, it is necessary that the stomach be filled with food, to enable the digestive organs to perform their functions. The full effect of the cake will be but imperfectly brought out if the food be not of sufficient bulk. "It is most necessary, therefore," says one of our professors of chemistry, while writing on this subject, "to study the bulk of the food, and to consider how to mix different substances in such a manner as to adjust the pro-

portions of nutritive matter to their bulk." Nutrition and bulk are, therefore, properties inseparably connected with the process of fattening stock. Turnips being the most bulky of all kinds of food, and oilcake the most nutritious, the process of feeding will be hastened in the shortest space of time by their use. This mixture of food is found also adapted not only to support or increase the weight of their bodies, but also to furnish the necessary amount of carbon required for supporting respiration. The quantity of food consumed in maintaining the animal heat, and the constant waste of the tissues, differs greatly according to circumstances. Thus a horse, according to Boussingault, throws off daily 45 lbs. of carbon, in the form of carbonic acid gas; and in the case of the cow four-ninths of the carbon contained in the daily food is consumed during the process of respiration.—*London Field.*

### On Soiling, or House Feeding Dairy Cows.

As this subject is beginning to attract attention, and to be discussed at Farmers' Clubs and Agricultural Fairs, any information connected with it must be interesting. A few years ago, Mr. Smith, of Deanston, the celebrated improver of land drainage, gave his experience in the soiling of dairy cows. He said that a dairy of twenty cows, consisting of part Ayrshire breed, and part a cross from Ayrshire cows and a Short-horned bull, were separated into two lots of ten each, selected to be as equal as possible in point of carcass, condition, and milking quality.—About the beginning of May, the one lot was put to pasture in the usual manner, going to the field about seven in the morning, after having been milked, again being brought home to be milked about one o'clock, and again being driven out at two o'clock to the field; at seven in the evening again being brought home to be milked, and remaining in the house all night, getting some turnips and straw during the first few weeks, and afterwards cut grass. Towards midsummer they were put out all night and kept in the house from twelve to four, getting cut grass, vetches, and straw.

The cows of the other lot were tied up in a shed built for the purpose, in a field of new grass, from which they were to be fed, near to a field of vetches. The byre was constructed to hold five cows at each end, with boards to open in front of each cow, to allow of the grass being put into the stalls, and to admit of an abundance of fresh air during the day. There was a tun or cask sunk outside to receive the liquid manure from the byre; near this the solid manure from the cows was piled in layers, and the liquid was occasionally taken from the tank and thrown over the heap to keep it moist, and to promote its decomposition, channels being formed around the pile to conduct such liquid as flowed from it back again to the tank. The liquid manure, being thus repeatedly passed through the dung heap, while it promoted its decomposition, became also enriched and in a proper condition to be applied to the surface of the ground. These cows were fed with grass from the field in which the shed was placed, and towards the latter part of the season, with a portion of vetches cut from an

adjoining field. About one-fourth part of a man's labour was sufficient for cutting and carrying the grass, with the aid of a pony and cart. He also supplied the cows with straw and water, carried out the manure and brushed the cows once a day. The cows were scarcely ever removed from their stakes, from the time they were put up until the first of November, when they were taken back to the dairy to be tied up with the other cows. The cows thus treated were milked three times a day as the others were; they gave their milk more uniformly and more plentifully, and continued throughout in excellent health, and improved in condition from thirty to forty shillings per head, over those at pasture. When removed to the dairy, they still continued in excellent health and condition during the winter, and had their calves in spring in the proper time, and of large and healthy frame. The manure made was of value considerable above the cost of management; and the cows were kept in summer on three-quarters of an acre each. Those on pasture required one acre and a quarter each, besides nearly a quarter for cut grass and vetches, so that, upon the whole, about one-half of the extent of ground necessary for the summer keep of cows at pasture, was sufficient for house-feeding, and at the same time increasing their value to a considerable amount. Persons who own small farms in the neighbourhood of cities, might adopt the plan of soiling cattle with great success. Green corn stalks are very good food for milch cows, and an acre will produce more of these than of any other description of forage. Cabbages, clover and timothy, vetches, &c., may be used, according as they come in season.—*Ohio Farmer.*

### Oats and Corn as Food for Horses.

From the peculiar construction of the stomach and digestive organs of the horse, and from careful experiments made, their food should be as much concentrated as possible; as they never ruminate, consequently they take their food into the stomach in a crude state, and the process of digestion is performed through the saliva in the mouth, and the gastric juice after it enters the stomach, where a chemical action is set up. It adds much to the economy of feed to have it ground, where grain is feed. The English cart and coach horses are fed on *bruised oats*, (which is only another name for ground oats,) and this—with straw and hay cut about half an inch long, wet and well mixed with the meal before feeding—is considered the best feed, with carrots fed in moderate quantities. Oats and corn, in equal parts, ground, are considered the best feed for horses in this country. Rye, in proportions of one-third, ground with oats and corn, is economical. There is no grain known which contains so much nutriment, chemically, to sustain the animal frame, as the three kinds above named. So far as economy is concerned, much depends on the relative value of the grains used; but generally oats and corn have an intrinsic value over other grain of from 20 to 25 per cent. equal weight. Corn meal and mill feed is fed to horses with good results, by keepers of stage and livery horses, with hay and straw cut fine, wet and well mixed before feeding. Carrots and other roots, fed in moderate quantities, are good, and conduce

much to the health of horses that are worked every day. Bran should never be fed to a horse except in the form of a *mash*. If given dry, it becomes impacted in the intestines, and forms a stoppage to the passage of the ingesta. If a horse has been without food for a longer time than is usual, between feeding, the vital powers are exhausted, having digested the food in the stomach. If food is placed before him it is swallowed with avidity; it enters the stomach not sufficiently insalivated, or masticated, rendering it impossible for the gastric juices to act upon it, and in such cases it is with difficulty than an action can be set up in the stomach necessary for a proper digestion; hence many valuable horses are lost by *colic*, through injudicious feeding with dry feed. The London Omnibus Company keep some 6,000 horses. In order to economise feed they tried the experiment of feeding 3,000 horses on bruised oats, cut hay and straw. The other 3,000 were fed in the usual way, on uncut hay and straw and whole oats, the horses doing their own grinding and cutting. The allowance on the first system was, bruised oats 16 lbs., cut hay 7½ lbs., cut straw 2½ lbs. The allowance to the second was, unbruised oats 19 lbs., uncut hay and straw 13 lbs. The bruised oats, hay and straw amounted to 26 lbs., and the unbruised oats, hay and straw to 32 lbs. The horses that had the bruised oats with cut hay and straw consumed 26 lbs. per day, and the result was that they performed as much work and kept in as good condition as the horses that had 32 lbs. per day.

Here is a saving of 6 lbs. per day on the feeding of each horse receiving the ground oats and cut hay and straw. Thus, at 5 cents per lb., the company saved the handsome sum of \$300 per day by using bruised oats, cut hay and straw, on the entire stock of 6,000 head.—*Stock Jour.*

### Fixing Up for Winter.

As winter approaches, the advent of which is foreshadowed by the decaying leaves and falling branches, the neat and orderly gardener sets himself to cleaning up his litter, arranging his pot plants in winter quarters, and otherwise "fixing up," as they term it. This is not an unimportant matter; dreary winter has few charms for the amateur—her *Verbenas* are gone from the borders, her *Petunias* from the mound; her delicate climbing *Manettia glabra* has yielded; even the plebeian *Morning Glory*, which opens its bright and gaudy corolla to the poor and rich, this, too, droops and dies. Enjoyment is then to be sought in rugged branches and tall towering trees, with ever verdant foliage; in shrubs, whose leaf system withstands the change of the season, being only removed by gradual and almost imperceptible instalments. Our needle-leaved trees are the beauty of the pleasure-ground in the coming winter season. Remove, then, all the gloomy remnants of decay and death; let not November sun shine on your black and rotten masses of leaves and litter; let the garden be neat and clean, so that the owner may walk therein with pleasure and gratification, without lamenting the inevitable signs of the fulfillment of another portion of his earthly sojourn.—*Country Gentleman.*



### The Circulation of the Sap in Trees.

To many, who suppose they understand perfectly the circulation of blood in animals, the circulation of the sap in vegetables is a great mystery. If a heart could be discovered in the trunk of a tree, the mystery would vanish; mechanical force and "suction" would explain the matter as in trees as in man; but trees have no hearts, except heart-wood, and hence people are driven to account in some other way for the motion of their juices. Capillary attraction, evaporation, and the operation of a "vital principle," have each in turn been called upon and used to elucidate the question. In a contemporary, whose pages are devoted to extra-urban interests, a correspondent devotes a long article to the discussion of the various theories proposed to account for it, without, however, himself arriving at the distinctive and *primary* principle involved. Science has decided that the heart of animals has much less to do with the circulation of the blood than in times past it received credit for; and in respect of his circulation man is found to be on a level with the grape vine and maple.

Mere capillary attraction will not account for a flow of fluids; it is only sufficient to account for a limited rise. If a bundle of small tubes be inserted in a vessel of water, the liquid will continue to rise in the tubes until the attraction of their walls for the water is balanced by the tendency of the water to seek the lowest level, and there it will remain stationary. If a cotton wick is placed upright in alcohol the fluid will rise and fill the interstices of the wick upon the same principle; after it has reached the top, however, the flow will cease, the capillary attraction is all satisfied and ceases to act on any new portions of the alcohol. But if a flame be applied to the extremity of the wick, the upper portions of alcohol are consumed, and the attraction of the cotton spaces continuing, a flow is established through the wick, which continues as long as the flame is kept burning. Or let us suppose that the extremity of the wick is spread out so as to expose a large surface to evaporation; as fast as the alcohol is removed by this means at the extremity, fresh portions will come forward to take its place. A flow will thus be established, and the vessel will ultimately be emptied of its contents. The flame in one case, and evaporation in the other, being the *cause* of the flow—the capillary tubes being only the *medium*.

We know so little, either of the "vital principle," or of its operations, that we must be content either to leave it entirely out of the discussion, or to hand over the whole matter for its disposal and dose the argument by saying, "the circulation is the result of a 'vital principle,' operating we know not how."

Before doing this, however, we shall appeal to recognized principles of physics and chemistry for a solution of the question.

There is another fact known to science, bearing on the point, viz: the diffusion or capillary mixture of liquids. Two fluids, as water and alcohol, or water and syrup, if placed in contact with each other, will gradually diffuse themselves through each other's substance, until, ultimately, a complete mixture of the two will be found to have taken the place of dissimilar liquids. The same fact holds good in relation to gases; if we fill a

jar with carbonic acid gas, and place it, uncovered, in connection with another jar containing atmospheric air, an interchange of contents will take place between the two vessels, and soon, the contents of each will be found to consist of a uniform mixture of carbonic acid gas and common air. Both these are instances of capillary attraction.

The diffusion, both of liquids and gases, takes place likewise (but in a modified degree) when separated by septa, as membranes, a film of water, unglazed earthenware, caoutchouc, and the like.

If two liquids, as water and brine, or water and syrup, be separated by a membranous septum, they will at once begin to flow toward each other, through the membrane; and this double current will continue until they are completely mixed, and of uniform density and quality on both sides of the membrane. But it is found that the water flows toward the brine or syrup, in greater quantity than the syrup flows to the water. Now, the reason of this unequal flow of the water and brine or syrup, through the pores of the membrane is accounted for by the greater attraction exerted by the membrane for the water, than for the brine or syrup; for if 100 grains of dried ox bladder be immersed for 24 hours in pure water, it will, at the end of that time, have absorbed 268 times its own volume of the fluid; but if the same weight of dried bladder be immersed for the same length of time in a saturated solution of sea salt, it will be found to have taken up only 138 times its volume of that fluid. As the brine, or syrup, are both of them denser, and more viscid than water, it may be imagined that fluidity and lightness, instead of special attraction, determines the rapidity of passage through the membrane. But, although many facts seem to support this view, one fact to the contrary is sufficient to disprove it, viz: that alcohol, which is more fluid and lighter than water, does not pass through membrane nearly so fast; 100 grains of dried ox bladder takes up, in 24 hours, only 38 times its own volume of alcohol; for convenience, however, we shall speak of the strongest current being from the water toward the denser liquid.

If a tall glass tube having a piece of bladder tied round its lower end, be partially filled with syrup, and plunged by its lower end into a vessel of water, it may be taken to represent the trunk of a tree in the ground. The membrane represents the *spongioles* of the roots, which are admitted to absorb water just in the same manner as membranes, or other porous bodies do: the tube will represent a single vegetable tube\* filled with sap, which is of a different composition, though of little different density, to common water. As soon as the tube is plunged into water, the syrup is seen to increase in volume, and to rise in the tube; this rise will go on to the extent of many feet in height; in fact, till the syrup and the water in the vessel have become equal in density and composition. Now, if by any means the contents of the tube and the contents of the water vessel could be kept at a uniformly dissimilar density, and the membrane could be made to

\*It is not intended to be taught that the sap circulates in continuous tubes; it is well known the sap circulates in and through closed cells; this expression is used merely as approximating to the truth.

retain its integrity, the flow and rise of the water in the tube would continue in *secula seculorum*.

How do these facts go to explain the circulation of the sap in trees? Let the spongioles of the roots be considered as membranes at the lower end of tubes; having sap (containing sugar, salts, albumen, etc. in solution) on the one side, and water (containing carbonic acid, ammonia, and mineral salts) on the other side. The spongioles permit a rapid passage of water inward, but only a very slow passage of sap outward; this, of itself, would determine, within certain limits, the flow of the sap; but if no other agency were at work, the flow would cease, from the saturation of the sap with the water of the soil. But when we consider the mechanism of the whole plant for maintaining a constant and uniform difference of composition between the sap and the water of the soil, we see at once how easily the circulation is explained.

The leaves are continually evaporating the excess of water absorbed by the roots; the carbonic acid is there decomposed, parting with its oxygen—the ammonia is decomposed, parting with its hydrogen—the carbon and nitrogen become united with the elements of water, forming dextrose, sugar, albumen, etc. For these organic principles, the tissues of the plant have a special affinity, and hence they are continually abstracting them from the elaborated sap, and assimilating them as woody fiber, starch, and other products. Bearing these explanations in mind, let us, in order to come to the ultimate approachable force which determines the flow of the sap, confine our attention to a single point in the vegetable structure which we shall designate by the letter A. In immediate connection with the point, A, is a particle of sap for which it has chemical or electrical attraction; but by virtue of that attraction, this point appropriates some of the albumen, or sugar, or dextrose of the sap—its composition is then changed; the attraction hitherto existing between the two ceases; a fresh portion of sap is attracted to the same point, and the changed portion moves on, and this continues as long as the exciting agencies of light and warmth continue in action.

The circulation of the sap is due, therefore, primarily and mainly, to chemical attraction and decomposition, excited by the light and heat of the sun's rays—the mechanism whereby it is maintained, is the membranous and cellular structure of the roots, stems and leaves of the plant; and evaporation does no more than aid the chemical force in this work. The sap is a stream richly freighted with materials for the growth of the tree—by the attraction of the existing substance of the tree for the sap, and reciprocally of the sap for the substance, it is impelled to move toward a particular point, and part with some of its elements; when this is done, the attraction is changed to repulsion; it, therefore, moves on, impelled by other particles behind, which are attracted in like manner to deposit their elements, and these by others, so long as the exciting causes continue in operation. The circulation of the blood in animals, admits of an analogous explanation.—*Scientific Artisan*.

[To be continued.]

Sweet are the uses of adversity.

## Potato Culture.

MESSRS. EDITORS: In the *Country Gentleman* of the 22d of September, I notice some statements about potato culture, from the pen of Mr. Bartlett, that have the "ring of the true metal." He ridicules the idea of manure causing the potato rot, or that flowering is a sign of its degeneracy. Allow me to state some facts bearing upon this interesting question.

The nine tubers which were raised from a worthless potato in 1858 [see *Country Gentleman* for October 14th, 1858,] and raised in the same manner in 1859, in twelve hills, produced potatoes of good size, had buds, blows and balls matured the second year, although no sign of a bud appeared the first year. Most of the tubers were sound when dug, on the 12th of September, but a few were not sound, as they were not dug or the tops cut or pulled as soon as ripe, as should become the practice in all cases.

The nine tubers, the first year's product, it is certain were not matured or ripe; but they were perfectly sound, and remained so until I planted them the next spring. But the product of the same this year are fully ripe, but not all sound when dug. I have laid by twelve to be planted in 1860, to be dug as soon as ripe, not before, and will report the result.

It is certain that the ripe potato is much more the subject of disease than the unripe or thrifty growing potato. Nor do I agree with Dr. Manby, that it is at all a sign of degeneracy, or of "growing out" in the flowering or ripening of the potato. If a plant is in a thriving condition, it is not the less so for blossoming and setting, as the potato may, even two or three times. But let it cease to thrive and shrivel up, from whatever cause, its tops should be at once destroyed, and save what growth of tubers is attained at such time, that the same may be and remain sound for the table, or for planting, with less trouble of picking over, and no loss from disease.

The potato should ripen before, or after the month of August, as far as it is possible. I planted 24 hills of white kidneys last May, a variety much inclined to the rot. I planted 24 hills of early blues at the same time, a variety not much subject to the rot. On the 20th of August I pulled the tops of 12 hills of each of these varieties, being fully ripe, and the other 12 hills of each I let stand till the 12th of September, when the stalks were both dead and dry. The kidneys not pulled on the 20th of August, had 72 diseased tubers, those pulled had but 23 defective ones. Of the blues not pulled on the 20th of August, five tubers were found defective, September 12th, of those 12 hills, but those pulled on the 20th, were all sound.

In the first experiment the defective tubers were six to two in a hill; the other, two to nothing. Numerous experiments of this kind have been made on more than a dozen varieties of potatoes, and they have been attended with the same general results. If any one will test this principle by experiments in 1860, it will confirm this theory of the potato disease as the only correct one, and give the world the long-sought remedy against its yearly ravages.

I planted seed from the potato balls in the fall of 1858, and sowed seed in beds in the spring of 1859, and the plants, many of them, grew very

thriftily, and in September budded and flowered and formed embryo balls, which soon fell off the stems, some of which had been twice transplanted. Does not this demonstrate the practicability of obtaining full grown potatoes the first year from the seed itself? What, indeed, will become of the theory that *high manuring* rots the potato, or that "*flowering* is a sign of their *growing out*?" Give the potato a warm, dry soil, rich manure from the hog-pen or hen-roost, spread broadcast or put in the hill, or used as a top-dressing, or in all these ways, with clean culture, and I can warrant potatoes of any kind to grow to ripeness without disease, if the tops are destroyed at that period.—*Car.*

In summing up the results of our correspondent's valuable experience as related in the above article, we find that in years when he dug the potato before it reached maturity, or at least as soon as ripe, it has been preserved comparatively sound and free from rot; on the contrary, when it has laid in the ground for a time after ripening, rot has ensued, as in the case mentioned, in which the potato was ripe August 20th, yet not pulled until twenty-three days later, on the 12th of September. The sentence in which our correspondent recommends avoiding the necessity of digging in August, owing to its juxtaposition to the statement of his successful experiments, in which August potatoes came out better than September ones, seems at first thought somewhat contradictory; but the experiment has no connection with the previous recommendation, and it is cited to show, that in spite of what was regarded as an unfavorable ripening season, the potatoes were preserved from disease by their not being suffered to remain in the earth longer than barely up to the time of ripening.

It is obvious that these and "numerous other experiments pointing in the same direction, seem to show how the rot may be partly avoided in the ripe potato; but it does not appear to cover the whole subject, as this theory does not affect the condition of *unripe* tubers, for it will be conceded, we suppose, that many potatoes have been subject to the ravages of disease before they have arrived at maturity.—*Editors Boston Cultivator.*

### Lord Derby Game Fowls.

Our good friend, the member from Butler, who represents the moral department of agriculture, in the State Board, made game of his worthy associate, the member from Lorain, and the editor of the *Ohio Cultivator*, at the State Fair, because of our leaning towards the Game Cocks. We went in for Indian Mountain Games, while the Doctor prefers the Lord Derbys, of which variety he has been breeding for many years from stock brought from England. A Game fancier correspondent of the *Spirit of the Times* writes thus of the Lord Derby Game Fowls:

"It is a matter of no little difficulty to be definite in numerating all which have been deemed worthy of a name, because in many cases the distinctions are so slight, arising doubtless from the system of *inter-crossing*, so highly valued by the former Derby game keepers. It was the practice of Lord Derby to keep a register of all his crossings with fowl from Sefton, Stanley, and

others, in many cases changing only slightly the color, yet sufficient for a name. The first strain of Derbys were known as having *white* legs, a strain greatly admired, and carefully preserved to this day. In the States of Georgia, South Carolina, and Alabama, they are known by the name of Claibornes, and are among the best fowls in those States. Still, I am not prepared to say they are the best of the Derby's; I consider the black-breasted, yellow-legged ones equal in point of courage and general fighting qualities to any. I have seen a cross between this and Cooper's Tartars, in which the color has been preserved, but strength, bigness of bone, and eagerness greatly increased. But I am quitting the original. Thos. Roscoe, who had the superintendence of the strain, thus describes the white-legged Derbys:—

"The cock is a fine, round-shaped bird, with white striped bill, dun eyes and fiery, round and strong neck, fine round and close feathered hackle, feathered points to shoulders, short, stiff, broad back, close feathered and hard; tail long and sickled, tufted at root; wings round and well prolonged, so as to protect the thighs; breast broad, belly small, and tight in the pinions; thighs short and thick, well set in the body; legs long and white; the comb of a stag is large and red, before being cut; weight about 5 pounds."

Subjoined is a list of names attached to the various strains of Derbys, which proves a remark I made in reply to "Game Fowl," that the white legged was not the only variety: Black-breasted birchen duck-wings; brown-breasted, or ginger; silver black-breast duck-wing greys; clear mealy greys; dark black yellow-breasted greys; red duns; black duns; smoky duns; whites; red-whites; streaky piles; dun piles; cuckoos; pheasant-breasted reds; large spot-breasted reds; shady-breasted and birchen duck; blotch-breasted reds; turkey-breasted greys; brassy-wings; the polecats; copper-wings; piles; marble-breasted birchen duck; muffs; tassels; spangles; wavy birchens.

The above, including white and yellow legs, number thirty-two varieties, some of which are of course deemed better than others. The various strains have white, yellow, green, willow, olive, blue and dark legs. Their bills and legs frequently correspond in color. Their eyes are red, pale yellow, dawge, dark-brown, or black. The following are generally considered as the best: Black-breasted, yellow-legged reds; black-breasted, white legs; dark black-breasted birchen ducks; dark black-breasted berry-birchens; silver black-breasted duck-wing greys; clear mealy greys; piles; dark black-breasted greys, and red duns.

Above I purposely omitted the *blue* duns, noted for their familiarity, impudence, and pugnacity. They are impetuous and courageous, and good in a fight. The breast of this strain is of a rich, dark slate color; the feathers having a broad margin and a darker hue; the saddle of a deep blood color, and the hackles of the neck and tail of a dark red, gradually shading to a beautiful golden tint; the tail black and flowing, with a brilliant green shade. The hen is marked in the same manner, all over the back and body, with the hackle of the same golden color.—*Ohio Cultivator.*

# The American Farmer.

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## TERMS OF THE AMERICAN FARMER.

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CHRISTMAS.—We cannot send out our monthly messenger, whose pages are as the face of an old familiar friend in thousands of happy households, and not send with it the cordial greetings of the season. A happy Christmas may it be to all! a time of rejoicing and gladness; full of the blessings of health, of plenty, and of peace. Our heart goes out with kindest sympathies and most earnest wishes of happiness for the many, many friends, known and unknown, whom it is our privilege to serve, and whose generous good will we have gained in serving them. A happy Christmas to them all!

We announced with a great deal of pleasure last month, that Professor Benjamin Hallowell had accepted the position of President of the Agricultural College. Our announcement was scarcely made, however, before the condition of Mr. Hallowell's health (which had made him hesitate about accepting the place) compelled him promptly, though with great reluctance, to resign it. At a meeting of the Board on the 6th December, Mr. Calvert was requested to act as President of the College until a permanent appointment could be made. Mr. Hallowell was unanimously elected an honorary member of the Board.

On another page will be found a reply, by our correspondent, Yardley Taylor, of Loudon county, Va., to the communication, in our last, of Dr. R. T. Baldwin, of Winchester. In publishing the Dr.'s article we should perhaps have expressed our dissent from his peculiar views on the subject of which he treats. We prefer, however, to have our correspondents carry on such discussions, and do not wish to have our silence construed into approval of what we may admit into our columns, out of respect for the source

whence it originates, or for the sake of eliciting the views of others on a matter of interest.

Dr. Baldwin's "shade theory," as it is termed, we have expressed our opinion upon heretofore. We agree with him mainly as to facts. We are quite aware of the value of covering the soil as a method of improvement. But we do not see that his theory explains the facts at all. The subject, however, is one full of interest, and agricultural science is so far from being settled, even upon points which have had the closest investigation, that we are quite willing to have the attention of agriculturists directed to them through our columns. We shall thank our readers if they will introduce other matters for discussion.

We thank our correspondent of Hanover county, Va., for his communication on the very successful use of the *Sorghum* or Chinese Sugar Cane. He will see in another selected article that we have furnished strong testimony of its having entered very considerably, and with much success, into the agriculture of the Western States. In naming the *Sorghum* in connection with other new things which seemed to have passed away, we did so with an express qualification, and the hope that we might hear from some of our subscribers as to their experience. In our farm work notes last spring, we advised its use for the very purpose to which it has been applied, as stated by our correspondent—as excellent early feeding for hogs, and are glad to have this additional proof of its value for such purpose.

In the West, it will be seen by the article from the *Cincinnati Price Current*, it has been cultivated to considerable extent, and manufactured with profit into syrup—mills being erected in the neighbourhoods, and the cane sold, or the miller taking toll from the syrup manufactured.

A correspondent of the *American Cotton Planter*, who says he is an overseer in North Carolina, and writes from Kinston, says: "There is great excitement in this country in reclaiming our old worn out lands, and I fully believe in a few years more, Eastern North Carolina will equal any other part of the United States." We have the same report from many other sources, and take much interest in the progress making where we have a large number of intelligent subscribers. The writer says: "I think if the farmers would turn their attention now to manuring, and less to hunting for a better country, they would do much better." This is the true doctrine, and the most valuable lesson the improvers of land in North Carolina are teaching is just this thing,



that it is wiser and better to stay at home and improve the old lands, than to be "running off" their negroes to the newer States. A judicious system of manuring and good culture will make this apparent, and improved and improving cultivation is not only good for individual interests, but it is the highest duty of patriotism, in the slaveholding States especially. North Carolina is keeping her sons and her slaves at home, by the proof that Cotton can be profitably cultivated within her own borders, and her lands improved at the same time. Virginia and Maryland owe it to themselves and to their sister States of the South, by every possible encouragement to improvement, to make slave labour so profitable at home that it cannot be drawn off by the higher bids of the cotton and sugar growers.

Our readers will hail with pleasure, as we do, our always sensible and humorous correspondent, "Patuxent Planter." His suggestions are to the point, and his hints worth noting.

On the subject of Beecher and his book, his strictures are, it is apparent, as just as they are severe. We must take shame to ourselves that we did not warn our readers against its alluring title. But to tell the truth, we never suspected "our Southern girls," whom P. P. eulogises so handsomely, or our "guileless" friend himself, would be so beguiled, and being in no wise tempted for any other reason to read any thing from such a source, we must confess we have not read the book. We find it abundantly quoted, however, by our contemporaries, and in such choice selections have seen quite as much of it as we desire. We have not for many years had one particle of respect left for the character of this man. Just in proportion as we reverence the true minister of God, do we abhor the pretender who puts on the livery of heaven to do more effectually the work of the evil one. We think him quite as bad as old Brown, with not half his courage.

We heard recently, on good authority, of a crop of corn made the past season in Harford county, Md., of seventeen barrels or eighty-five bushels to the acre, on a field of thirty-five acres. The man who made this crop is a true, genuine, hard-fisted farmer, who knows how to take hold himself, and has worked out with remarkable results the great problem of successful land improvement. He bought his land some fifteen years ago at ten dollars an acre. He improved it to a certain point with lime and bone dust, and the system adopted when the growth of grass would allow it, was the feeding of cattle on his

land for the Philadelphia market, and selling nothing from the farm but the cattle and the crop of wheat. The cattle are not kept over from one season to another to graze the lands, but purchased in the Fall, in good condition, and fed with corn until fat. All the corn he can make, and frequently more, is consumed and turned to beef and manure, and the stock is got rid of before another season. This year his corn field was broken to the depth that three yoke of oxen could turn it, the corn planted four feet by two, and the result as above stated. The ten dollar land has supported him and his family, and is worth now, it will be admitted, a hundred dollars an acre.

### Fine Vegetables.

We have received from Mr. O'Leary, Mr. Hewlett's gardener, some magnificent specimens of Mangold Wurtzel, Red Beet, Carrot, and Parsnip. The Mangold Wurtzel weigh from eleven to fourteen and a half pounds each, and the rate of yield, we are informed, is twelve hundred bushels to the acre. This root has of late years received a great deal of attention in England for stock feeding, and can no doubt be more generally cultivated in this country for the same purpose. At Mr. Hewlett's it has, of course, received all the advantages of deep culture, ample manuring and careful attention, but if twelve hundred bushels can be raised under such circumstances, it ought not to be very difficult to get five hundred. The labour need be no greater than on a crop of turnips drilled, except one or two more workings, perhaps, with the plough. Under circumstances where it is desirable to get a large amount of stock food from a small area, there are few plants which will compare with it.

We are indebted to Thomas Affleck, Esq., near Brenham, Washington county, Texas, for his *Southern Rural Almanac and Plantation and Garden Calendar* for 1860. The Calendar contains much useful matter for Southern readers on matters pertaining to the Plantation, Garden and Orchard. Mr. Affleck's intelligence and long experience in rural affairs in the South, makes him a very competent guide to those who want assistance.

IOWA AGRICULTURAL REPORT.—We are indebted to J. H. Wallace, Esq., Secretary of the Iowa State Agricultural Soc'y, for a handsome volume of Reports for the year 1858. It is a volume of more than four hundred pages, and is in matter and style highly creditable to the Secretary and to the prosperous young State whence it issues.

### The Premium for Forty Bushels of Wheat to the Acre.

A correspondent at Taneytown, Carroll county, informs us that a neighbour of his claims the \$5 premium, offered in our last, for the method of growing forty bushels of wheat to the acre. His neighbour, he says, did not believe it could be done, but determined to try. He first put lime upon his land, then a coat of manure, then half a ton of Peruvian guano, broad-cast, to the acre, and when he drilled in the wheat he put in a half ton more to the acre, and made forty-two bushels of wheat to the acre.

We do not think our experimenter deserves the premium, because it is hardly to be presumed that a reward would be offered for showing a man how to run in debt; that science is sufficiently understood as a general thing, and easily practiced. What we want is not only to know how to make large crops, but to make a large profit on the expenditure; or, at least, to know that we may make the expenditure without risk of loss

Col. C. Q. Tompkins, of Fayette county, Va., has handed us some remarkable heads of wheat grown upon the land of Mr. Scott, near "Hawks Nest," in that county. The heads measure six to seven inches each, and Mr. Scott's crop averaged in weight 68½ lbs. to the acre. The history of the introduction of this wheat in that part of Virginia is worthy of note. A poor emigrant, who had been out west, spent his money and lost his health, was making his way back home to Maryland, and was not able to pay for his night's lodging with a farmer, who entertained him. On leaving, however, he gave his host a spoonful of wheat, which, he assured him, if properly taken care of, would shortly compensate him. The wheat was taken care of, and has increased so largely that it is sown in all that section, and the crop of wheat which received little attention previously, has very largely increased, and this favorite variety sown almost exclusively. The lands of that county, we should judge from the specimen before us to be peculiarly adapted to the wheat culture. The variety is the Maryland white blue stem.

We are indebted to Allen Bowie Davis, Esq., for a valuable essay on "Lime as a Fertilizer," which we regret we cannot publish in part in this number, our pages being already full when it was received.

An Agricultural Society has been formed at Goldsborough, N. C., and J. A. Washington, Esq., elected President.

### United States Agricultural Society.

A communication is received from a friend in a neighbouring State with reference to the successful Exhibition of the U. States Agricultural Society at Chicago, and the gratifying manner in which the Society and the large mass of visitors were treated by the citizens of that vigorous and prosperous young city of the West. The late date at which our correspondent's letter was received, forbids our publishing it at length, which, for some reasons, we should be pleased to do.—We give the following extract:

"After the place for the Show and plan of the grounds had been agreed upon by the Executive Committee, then the people of Chicago, at their own expense, (with the personal attendance and assistance of Col. H. Capron, the Society's superintendent,) enclosed the grounds, constructed buildings, provided for a supply of water, fitted up gas fixtures and other necessary fixtures, to the enormous expense of \$10,000—and besides which, when the people of all the States went there—although the hotel accommodations were extensive, prices reasonable and attendants obliging—still there was not sufficient room for the assembled thousands, and in this emergency the doors of the citizens of Chicago were thrown open, and it was estimated that more than 20,000 strangers were lodged and fed in private families. Everything was done by the citizens of Chicago, and, indeed, by the citizens of Illinois, to make the visitors to their State and city comfortable and agreeable. And most nobly did they succeed—(the writer speaks from experience, for in addition to several invitations within the city limits, he received several letters, while there, to call and rest with them a few days, from citizens of the State as far distant as Springfield, the capital of the State.)"

### A Lady's Letter.

NORTH CAROLINA, NOV. 28, 1859.

DEAR MR. WORTHINGTON: I have so long been a reader of your highly esteemed and ever welcome paper, surely you will excuse my addressing you as an old friend. I take a great interest in gardening, in all its branches, fruits, flowers and vegetables. Your book is my rule in gardening and fruit culture, and many a profitable hint have I taken on the rearing of fowls and household management. I venture to say, that every housekeeper who devotes a short time, each month, to reading your journal, is not only much improved by it, but entertained as well as enlightened. If all the ladies could know what a valuable friend to them the dear old "Farmer" is, surely the gold dollars would rain down on him.

We take the liberty of making the above extract from the letter of a lady in a distant State, as one of the many valued tokens, so often exhibited in our correspondence, that our labours are not altogether in vain, and that the "dear old Farmer" has a place in the true hearts, not only of the farmers, but of the farmers' wives, which

is better. We heartily wish that "all the ladies could know" (we will not say how "valuable," but) how true a friend this "old Farmer" is and means to be, by all possible service, to them and their sons, as well as their husbands. We covet such golden opinions as the above, and have nothing to say against "the gold dollars."

— If Christmas comes "but once a year" we will not let it slip away too soon, but claim the whole up to "twelfth night," that is to the sixth of January, inclusive. While our recipes following, therefore, may not be in season for many of our readers, some of them may have an opportunity of trying them before Christmas is over, and if not, they will bear keeping. We know, by frequent experience, that these are all good, that is when made up by a certain lady of our acquaintance who does all things well, but whose name we modestly decline to give:

#### PLUM PUDDING.

Six eggs well beaten; stir into them two pounds of sifted flour, one pint of fresh cream, one pound of minced suet, and half pint of yeast; mix all well together, and then add two pounds of raisins, seeded and cut in half, and set to rise all night. Flour the pudding bag, and pour in the batter; put it into a pot of water that is boiling hard, and keeping it boiling for five hours.

*For Sauce.*—Two pounds of loaf sugar, one pint of Lisbon wine, half pound of butter, (a part of it rolled in a little flour,) and two grated nutmegs. Simmer it over the fire for about fifteen minutes.

#### EGG-NOG.

Six eggs, whites and yolks, beaten separately, very light, six moderate tablespoonfulls of powdered loaf sugar, beaten with the yolks; mix the white in gradually, adding six tablespoonfulls of good brandy, a little grated nutmeg, and half a tumbler of fresh cream.

#### MINCE MEAT.

Boil 2 lbs. of lean, tender beef, and chop it fine after it is cold; mince 1 lb. of suet fine; add 2 lbs. of sugar, 2 lbs. of raisins, stoned and cut in half; 2 lbs. of currants, washed, picked and dried; 1 lb. citron, cut in not very small pieces; 2 nutmegs, grated; 1 tablespoonful of powdered cinnamon; 1 of ginger; 1 of spice; the juice and grated rind of 6 lemons; 1 pint of sherry wine; ½ pint of brandy. Put it up in stone jars, well covered, to exclude the air. When made into pies, add a little chopped apple.

#### TO PICKLE OYSTERS.

Drain the oysters from the liquor; pour over them a little water to rinse them; strain the liquor and add to 3 pints of it, 1 of vinegar, salt to your taste, also pepper, allspice, horse radish, and mustard seed; boil ten minutes and then add the oysters and boil five minutes longer. They are very good prepared in the same way, leaving out the vinegar.

#### The Guano Trade.

From valuable facts and statistics in our possession, we are enabled to make an interesting statement of the value and importance of the Guano trade, and to show how important it has become to the city of Baltimore especially, to cherish and foster it. We are not able, however, to prepare such a statement fully for our present issue. The importations exhibit an extraordinary increase during the past year and proportionate consumption.

The Peruvian—which stands, of course, first in value by large odds, the number of tons being about double that of all others together, exhibits the large importation of 42,318 tons, and the disbursements on account of freights, discharging, cost of bags, storing and various items of cost on account of this trade alone, during the year, are scarcely less than a million and a half of dollars. Besides this, the increased tonnage, which would not otherwise seek this port, affords facilities for procuring freights for our Tobacco, Flour, Grain, &c. We have frequently called the attention of the agricultural community who deal with Baltimore, to the advantage they have in a direct importation of Peruvian Guano to this port.

The increase in the imports of other Guanos have been in like proportion. The *Elide Island* (California) *Guano* shows an import of 4,200 tons against 1,942 in '58. Of the Mexican Guanos 8,823 tons have been imported against 2,612 in 1858. Of the Nevassa the imports are 3,840 tons, the same as in 1858. Of the Sombrero we have 3,100 tons against about 900 in 1858.

The total increase of imports of Guano of all sorts to Baltimore over those of 1858, is something more than 42,000 tons.

— We thank our friends who have already promptly sent their subscriptions in advance. May we beg of those who have not done so, that they will attend to this little matter at once. We wish to say that having accomplished in July one purpose, we had in view, by stopping unpaid subscriptions, viz: that of purging our lists of such as from death or otherwise might not pay their bills, we shall hereafter continue to send the paper unless otherwise ordered. We beg therefore that those who may wish to discontinue will notify us promptly.

— We have received from Sidney George Fisher, Esq., of Philadelphia, a copy of his able address before the Montgomery Co., Pa., Agricultural Society.

## The American Farmer.

### BUSINESS NOTICES.

The undersigned have this day formed a Co-Partnership, under the style of *Worthington & Lewis*, for the purpose of transacting the publication of the "*American Farmer*" and the *Business Agency* connected therewith.

N. B. WORTHINGTON,  
THOMAS B. LEWIS.

Baltimore, 1st January, 1860.

The above announcement explains itself, and the Editor, who has heretofore been sole Proprietor of the *Farmer*, takes pleasure in saying that the association it indicates, while very agreeable to himself, insures to the Business Department of the *Farmer*, and to the Business Agency connected with it, the services of a gentleman thoroughly competent, in all respects, to do them ample justice, and to give to all who may have business relations with us entire satisfaction.

### The Risk of the Mails.

Our subscribers frequently give as a reason for not remitting the amount due by them, the fear of loss through the mail. We wish to state distinctly that they need be under no apprehension of loss to themselves, as if they remit and we fail to get the money, they shall certainly have the paper as soon as they notify us of their having sent it. It may be supposed that in taking the word of every one who may say he has sent us a dollar, we subject ourselves to imposition. We have no fear of the sort however. We have quite confidence enough in the class of persons who read the *Farmer*, to believe that there is not one in a thousand who would take advantage of such confidence.

There are some, too, who if the money fails to reach us are not willing that we should bear the loss. On this point they need feel no delicacy, because it is our interest to submit to such loss.—The great bulk of our receipts are through the mails, and if our subscribers were all afraid of loss in sending, we could never collect our bills. We beg, therefore, they will all send by mail at our risk, and if they have reason to think their remittance has not been received, to give us prompt notice of its having been sent, and they shall have due credit.

Nor is it necessary that they should send through the Post Master, if it is more convenient to do otherwise. Fold the money in a small bit of paper, stick it to the letter, seal as usual, and what you do do quickly.

### Our Premiums.

In our July number we offered to those who would get us up lists of new subscribers several valuable implements as premiums to pay for their trouble. We have found by experience that this is a sort of premium which does not prove acceptable to those who are willing to receive compensation. The consequence is there has been very little competition for them. We are indebted for numerous lists to gentlemen in different States, who almost without exception express an unwillingness to receive a premium. The list which has earned the largest implement premium is that of Mr. William Worthington, a young gentleman of Prince George's county, Md.; the second, that of Mr. William D. West, near Hampton, Va., and the third, that of Mr. J. H. Alexander, of Union, Monroe county, Va. The other lists are such as do not entitle them to an implement premium, and, indeed, did not in either case compete for the premiums. While we are only the more obliged to our friends who without reward have exerted themselves to increase our list, we should have been very glad had they thought proper to have given more time to the matter and have claimed the premiums as compensation.

OUR SUPPLEMENT.—As we gave notice last month, we have discontinued our Monthly Supplement for the present. The heavy cost of about \$100 a month, besides the extra labour of preparation and office work, makes it too heavy a tax for the dull season of the year; we hope to continue it during the heavy advertising season.—As we said before, we are very confident there is no subscriber who begrudges the small sum of \$1 for the *Farmer*, the value of which, we hope, is estimated rather by the quality of the matter it contains, than by the quantity of ink and paper.

POSTAGE STAMPS.—Will our correspondents bear in mind in writing on their own business a letter which requires an answer, to send a postage stamp or three cent piece for return postage. We are very largely taxed for postage by persons who ask an answer to their letters, or a receipt for a one dollar payment, but fail to send the postage.

We are indebted to Mr. Harris, of the *Genesee Farmer*, for a copy of his handsomely illustrated *Rural Annual and Horticultural Directory*, for 1860. A valuable little work, full of much useful matter, for 25 cents a copy.



## FLORICULTURE—January, 1860.

Prepared for the American Farmer, by Wm. D. Brack-  
earidge, Nurseryman, Govanstown.

The month of January is one in which preparation should be made to have all work done necessary to facilitate both in and out of door operations before the busy spring months set in. This work will consist partly in making labels, flower stakes, mats for early hot-beds, and putting in cuttings of such plants for bedding out, as *Salvias*, *Scarlet Geraniums*, *Heliotropes*, *Cup-  
heas*, *Verbenas*, *Lantanas*, *Petunias*, *Tropæolums*, &c. These, if well cared for, will make good specimens to plant out for summer blooming. Towards the end of the month the temperature in the plant house should be allowed to rise a few degrees higher than it was kept at during the last month, so as to keep such plants as have started into growth, in a healthy condition, and in this you will be assisted by the greater heat of the sun; observe always in fine weather to admit a little fresh air during the early part of the day. As a general rule, increase the quantity of water given at the root as the plants start into growth, and as the season advances; see that the water is of the same temperature as the house, which can easily be effected by having a tank or cask under the plant stage, and no greenhouse should be without a vessel of some kind to hold a good supply of rain water, which can easily be obtained by a pipe leading from a gutter carried along under the eaves of the house. Prune and tie up to neat stakes all plants that have become overgrown; do not be afraid to use the knife, for by its free and judicious use you secure bushy, well formed specimens. Shift into larger pots such as require it, while those that do not should have the surface well stirred up and top-dressed with fresh earth.

*Camellias*.—Care should be taken that such as are in bloom be regularly supplied with water at the roots. In a moderate, humid atmosphere the buds expand with more vigor, and the flowers last longer than in a dry one, observe to keep the leaves free from dust by the use of the syringe and sponge.

*Fuchsias*.—A few of these wanted for early blooming should be turned out of the pots, and the earth shaken from the roots; these and the 'tops require to be shortened back with the knife in order that they may push again vigorously—replace them into smaller pots than those from which they were taken.

*Gloxinias* and *Achimenes* may now be potted and placed in a warm situation; drain the pots well, and use a compost of decayed leaves, manure, sand and well rotted sods.

*Cinerarias* and *Calceolarias*.—In small pots, should be shifted into larger ones before the roots become matted around the pots, as no good can be expected from plants that once become, as gardeners term it, "pot-bound;" fumigate with tobacco smoke to keep down the green fly, and water with liquid manure once or twice every ten days.

*Pansies*.—ten week stocks.—Sow seeds of these as well as a succession of *Mignonette*, with such other tender annuals as you wish to have in a forward state before spring. All such plants af-

ter they fairly appear above ground, ought to be placed close to the glass, and receive water in moderate quantities during the winter months.

*Pelargoniums* will now begin to grow freely, pinch back the tops and tie down the side branches, so as to form bushy plants. Shift the small plants into larger pots as they require it, using a compost, in nearly equal parts, of well rotted manure, sods and sand, and keep the plants in a light, airy part of the house, giving water at the roots and overhead more freely as they progress in growth.

*Oxalises*.—Roots that were not before potted should now be attended to, and such as have done flowering may be set aside in an airy place to ripen their tubers.

*Azaleas* starting into growth will require a more liberal supply of water; and such as have long straggling shoots should have them cut back, in order to form a neat head.

*Roses* raised from the open ground and potted in the fall, if they have not been attended to, should be pruned and tied up to stakes, and for late blooming may be kept in cold frames or a house; and all plants kept in frames or pits ought to be well protected in severe weather by straw mats, observing to admit in fine weather a good supply of light and fresh air, at which time they ought to be carefully examined and have all decayed matter removed, observing well that nothing is suffering from too much moisture, this being one of the greatest evils to contend with during the winter months in cold frames and pits.

Mr. S. G. Goodrich, in the second volume of his recently published *Illustrated Natural History*; says—

"It is a question which often arises, how the oysters, scallops, and other shell-fish which are fixed to rocks for life, obtain food? Jones, in his 'Structure of the Animal Kingdom,' answers this question: 'Wonderful, indeed, is the elaborate mechanism employed to effect the double purpose of removing the respired fluid, and feeding the helpless inhabitants of these shells.

Every filament of the gill-fringe, examined under a powerful microscope, is found to be covered with countless cilia in constant vibration, causing by their united efforts, powerful and rapid currents, which, sweeping over the entire surface of the gills, hurry towards the mouth whatever animacules or nutritious particles may be brought within the limits of their action, and thus bring streams of nutritive atoms to the very aperture through which they are conveyed to the stomach; the lips and labial fringes acting as sentinels to admit or refuse entrance, as the matter supplied may be of a wholesome or pernicious character.

So energetic indeed is the ciliary movement over the entire extent of the gills, that if any portion of them be cut off with a pair of scissors, it immediately swims away, and continues to row itself in a given direction, as long as the cilia upon its surface continue their movements. What is there more curious, more wonderful than this in the history of animated nature? Down in the hidden depths of the sea, on every shore, in every clime, in respect to myriads of this the most helpless of His creatures, God bestows his care and works His miracles!"

[For the American Farmer.]

**"Humbug"—A Prevalent Disease with Agriculturists and its Remedy.**

BY PATUXENT PLANTER.

MR. EDITOR: No class of men are more easily humbugged than farmers and planters. We are a confiding, trusting class, because we are honest and guileless ourselves; we judge others as we are proud to be judged—by that fair justice which springs from the purity of motive and honesty of intention. We are liable to be deceived, because, I am sorry to confess we are, as a class, lamentably ignorant of all science in regard to our profession. In the truth of this dictum lies the all-powerful necessity that we should provide an Agricultural College for our sons, and give them the opportunity, at least, of acquiring such knowledge as will protect them from those abuses that their fathers now daily have to submit to as a penalty of good-natured ignorance.

In agricultural literature, the articles in journals and the books that are published, a farmer is often sadly deceived, cheated out of his money and his time. Interested journalists or their correspondents are too often found blazoning forth in bright colours, the pretended merits of books, seeds, machinery or fertilizers, which are worse than worthless. This is practical fraud. Any man who has a pecuniary interest in any of these things he puffs, should be honest enough to declare his name and frankly state that he is interested, whether to a large or small extent, and then his reader could have a basis on which to found a proper estimate to be placed on the statements made. Editorial reviews of books and articles of sale, should be frank, and not only praise the worthy, but guard the public against the worthless, whether, book, manure, mechanical invention, seeds, or anything likely to affect the pockets of unsuspicious planters or tillers of the soil. You editors should be the doctors to apply the *preventives* against humbug books. You should make it your business to review each book as issued from the press, and point out its defects and merits, and boldly recommend it or denounce it, so that your readers might not be deceived. One of these worthless productions is H. W. Beecher's high sounding and clap-trap titled book—"Plain and Pleasant Talk about Fruits, Flowers and Farming," 420 pages—not twenty pages of really sensible matter,—one grain of wheat, poor at that, to one bushel of damaged chaff, hard to winnow, and disagreeably filthy. It shows the reverend orator to have been used to very low society, and proves that the followers and associates of the early life of this Prince of Abolitionists were very dirty people, like all Yankee abolitionists, fit for "stratagem and murder," as one or two quotations will show. It is true he *condemns* such practices, but leads one to infer that they are quite common in the circles of his former adherents.—"It is a dirty trick to make bread without washing one's hands after cleaning fish or chickens; to wash dishes and baby linen in the same tub alternately or *altogether*. We have a distinct remembrance of a cud of tobacco in a dish of *hashed pork*. A lady of our acquaintance, at a boarding house, \* \* \* found herself blessed with a mouthful of *hard soap*, which only lathered the more, the more she wash-

ed at it. It is a filthy thing to comb one's hair in a small kitchen in the intervals of cooking the breakfast; to use the bread trough for a cradle—a thing which we have undoubtedly seen; to put trunks, boxes, baskets, with sundry other utensils, under the bed where you keep the cake for company; we have seen the dexterous housewife whip the bed spread aside, and bring forth, not what we feared, but a loaf-cake! It is a dirty trick to wash children's eyes in the pudding dish; not the sore eyes, but subsequent puddings will not be benefitted; to make bread on a table innocent of washing for weeks; to use dirty tablecloths for *sheets*, a *practice* of which we have experimental knowledge. It is a filthy trick to borrow or lend for other's use a tooth brush or tooth pick." (See pages 34-5 and 6.) Beside many other dirtier "tricks" and habits which he advises his people to abandon, and which are too disgusting for insertion in your chaste pages. Such being the worse than Esquimaux habits and customs of these people, it is no wonder that they are envious of the refinements and comforts and elegant surroundings of the home of a Southern, whose dirtiest negro child six years old would not be guilty of like "filthy tricks." The author, having a wide-spread reputation as an eloquent, classic orator of God's Holy Word, and the book, gotten up in fine style, what may not be the number of dollars spent in its purchase, by our blooming Southern girls, whose refined manners, chaste and highly cultivated minds so beautifully harmonize with their surpassingly lovely personal attractions, captivated by the thought of having a "Pleasant Talk about Fruits, Flowers and Farming"—all attractive, delightful subjects—with so eloquent a Divine, only to be deceived and disgusted by ribald jests, low wit and dirty "hints" as to what should be avoided—conduct of which an idiotic negro would not be guilty. Is not this a gross fraud? And such like "tricks" of the trade are daily performed and go unrebuked by the press—the would-be, and ought to be, regulator to a great extent of public sentiment and action.

Another disease with which we are afflicted is the "Travelling Agency" for the sale of *trees*, seeds, flowers, and machinery and Bommer's Patent Manure. The highest prices are paid by our farmers for the roots, trees, &c., that are the refuse of the nurseries, or the worthless collections of unknown growers of seedlings, which have never been tested. I was myself *seduced* in buying from a glib-tongued vender, an apple corer and parer, at a high price, and the thing never could be made to work—it suited neither *little*, big or medium sized apples. The remedy for this disease is like that for another well-known bad habit—"touch not—taste not—handle not the unclean thing"—and you will be sure to *buy* not.

Another cancer on the diseased body of our brotherhood is the General Agency and Commission Business—these "*go-be-tweens*" the seller and buyer—the producer and consumer. The seller has to lose and the buyer to pay, to raise a fund for the support of this worthy class. In many cases it is very necessary and proper, but it is growing to too great an excess—it is becoming so that nothing can be bought and sold except through an agent, who often acts as agent for both parties, and thus it becomes doubtful which

party gets his full due. I do not know how humanity is effected in the case of such agencies, but it has been ascertained of old, that *Judges* who received fees from both sides, usually found *law* and facts to incline their decisions on the side of the party that handed over the *heavier purse*.—The remedy here is for the producer to sell in person all that he can—and by furnishing good, reliable articles, inspire confidence in the purchaser or consumer. Those who have improved stock should advertise over their own names, and then purchasers would look to the character of the advertiser, and feel that they had a guaranty of the correctness of his statement, and could regulate his offers accordingly. Every tub would then stand on its own bottom or soon burst its hoops—short hair would not be so often found among the "F. F. V's." At present, I shall not pursue this subject, lest I weary your reader—but hope to be heard next month on the most important of all the *humbugs*—"Fertilizers"—and to suggest what I humbly deem would prove a remedial check, if not a cure.

[For the American Farmer.]

### Paul Plants, Apollos Waters, but God Gives the Increase.

In answer to your Carroll county correspondent, who wishes to know how to make forty bushels of wheat to the acre, I will state what has been my experience in wheat growing. I began the improvement of a very poor piece of land (the last cereal crop grown on it being 21 bushels of rye on 18 acres.) In the fall of '48 I limed it with 100 bushels of Baltimore county quick lime. In the spring of '49 sowed two bushels black peas; they made but a poor show. In the fall limed again with a like quantity. In the spring of '50 sowed with peas again, which grew very luxuriantly. In the fall of '50 ploughed in the peas very deep—12 to 14 inches; rolled heavily so as to make a compact substratum; used 200 lbs. of Peruvian Guano and 20 bushels of ground bones to the acre, and obtained forty-two bushels of wheat—harvested in '51. I cut three crops of grass, (clover and orchard grass,) supposed to be  $1\frac{1}{2}$  to 2 tons each crop. In '55 I had it in corn, and got 14 barrels (70 bushels shelled corn) to the acre. In spring of '56 sowed in peas, ploughed them under in fall; used 200 lbs. Peruvian Guano and 20 bushels of bones. In spring of '57 it bid fair to be a heavy crop, but began to fall back in May, and grew worse every day till harvest. This was owing to the fly, so destructive that year. So completely had the orchard grass got the upper hand, that I had to save the crop with a grass scythe; nevertheless, I got 21 bushels of wheat to the acre. In '58 and '59 I cut very heavy crops of grass, supposed two tons to the acre.

To show the application of the heading of these remarks and the uncertainty of the wheat crop, I will state that while my land is greatly improved in condition over what it was when I produced the largest crops, and I have still used as much manure, yet in the past three years I have averaged but 22 bushels to the acre on fields which had grown before, respectively, 42, 36 and 38 $\frac{1}{2}$ . The corn and grass crops have continued to increase. Respectfully,

J. Q. HEWLETT.

### Meeting of the Executive Committee of the Md. State Agr. Society.

BALTIMORE, December 6, 1859.

The committee met pursuant to the requirements of the constitution. Present, John Merryman, Esq., President, and Messrs. O. Bowie, S. Brown, J. H. M'Henry, and Frank Cooke.

The proceedings of the annual meeting of the Society, and of the last meeting of the Executive Committee, were read.

The President presented the following report in regard to the Show Grounds, &c., which was read and accepted:

The undersigned respectfully reports to the Executive Committee of Maryland State Agricultural Society, that he has received from Robert Moffit, for rent of Show Grounds, since last settlement with your committee, one hundred dollars, which is in full to the 30th September last. On 1st April, 1860, there will be due fifty dollars, when the term expires. The Society's right to the Show Grounds ceases in September next, to which time from 1st April, a new lease to Mr. Moffit, or some other person, could be made. He has paid Thomas Cross, collector of taxes for 1859, forty-nine dollars and fifty cents, as per voucher, the balance, fifty dollars and fifty cents, he has paid to the Treasurer of the Society.

The amount in my hands belonging to the Society, and attached by Burns & Sloan, is four hundred and sixty-four dollars and eighty-one cents.

JOHN MERRYMAN.

Baltimore, Dec. 6, 1859.

Mr. Bowie moved that the President and Mr. J. H. M'Henry be a committee to make such disposition of the Grounds as they may deem best, at the expiration of the lease of Mr. Moffit—which was concurred in.

Mr. Bowie called attention to an error in the published list of officers of the Society. The Committee on Nominations recommended E. Lloyd, Jr., Esq., as Vice President for Talbot, and Lloyd Lowndes, of the same county, as one of the Curators, who were duly elected at the annual meeting, and moved that the Secretary notify these gentlemen of their appointment—which motion was concurred in.

The President, in obedience to a resolution adopted at the annual meeting, appointed the following gentlemen the committee to memorialize the next General Assembly in behalf of the claim of the State Society for aid, viz:

Col. ODELL BOWIE, Prince George's county; Dr. S. P. SMITH, Alleghany county; General TENCH TILGHMAN, Talbot county; J. HOWARD M'HENRY, Baltimore county; L. T. BRIEN, Washington county; Col. EDWARD SHRIVER, Frederick county; J. M. JACOBS, Harford county; SAM'L SANDS, Baltimore city; S. T. C. BROWN, Carroll county.

The ex-Presidents of the Society, Messrs. Calvert, of Prince George's, Earle, of Queen Anne's, and M'Henry, of Harford, were, by resolutions of the Society, added to the committee.

The Treasurer submitted the report of the receipts and expenditures of the Society for the past year, with the accompanying synopsis, which on motion was referred to a Committee of Examination, consisting of Messrs. Cooke, M'Henry and Merryman, to report at a future meeting.

This being the day for the election of Treasurer and Marshal for the ensuing year,

Mr. Bowie nominated Samuel Sands for re-election to the office of Treasurer and Secretary, and Mr. M'Henry nominated Martin Goldsborough for Marshal—no other nominations being made, they were unanimously elected.

The committee then adjourned.

Test, SAMUEL SANDS, Sec'y.

BALTIMORE, December 6, 1859.

To the Executive Committee of the

Maryland State Agricultural Society:

The Treasurer begs leave to submit the following statement of the receipts and expenditures for the past year—from which it will be seen that

The total amount of receipts from all sources is \$4,044 71  
And the expenditures, to date..... 4,021 14

Leaving a balance on hand of..... \$23 57

The following are the claims against the Society, for the operations of the year, as far as known to the Treasurer, viz:

In the City of Baltimore—for premiums:

Montgomery & Bro.....	\$3 00
R. E. Colvin.....	5 00
W. Norris.....	8 00
J. H. McHenry.....	206 00

Total uncalled for in Baltimore.....\$222 00

In the vicinity of Frederick, for premiums

uncalled for at the closing Show.....\$164 00

Advertising in Liberty town paper..... 3 00

—\$167 00

\$389 00

To meet the demands against the Society, for these last named claims in Frederick, the Treasurer has left in the hands of

Mr. Dennis, V. President, the sum of...\$75 00

Lumber belonging to the Society, at Frederick, ordered to be sold, will probably

realize, say..... 65 00

Cash on hand, as above..... 23 57

—\$163 57

Leaving, so far as known, the indebtedness of the

society, for past year's operations.....\$225 43

There may be some other items, which have not been called for, on miscellaneous account, but as far as has come to the knowledge of the Treasurer, the above comprises a full statement of the fiscal affairs of the Society, since his appointment as Treasurer.

It is proper to add, that in consequence of the Exhibition being held away from the city of Baltimore, or from other causes, a number of the gentlemen who were members of the Executive Committee were not present; and as that is the time usually availed of for the payment thereof, their membership fees are still due,—from this source an amount will be realized towards meeting a portion of the indebtedness of the Society for the year. It is also probable that the Frederick Co. Society will refund to the State Society the amount paid by it for the extra fixtures on the Show grounds, which were found necessary in consequence of the alterations in the premium list to admit certain classes of stock not before provided for,—the subject was to have been brought before the County Society at its stated meeting, but no report has as yet been made of the result. If the Frederick Society assumes that charge, the amount, together with the receipts

for membership fees above alluded to, will nearly liquidate the claims known to be due against the Society for the year just ended.

The Treasurer deems it proper to present a condensed view of the sources of receipts, and the object of the expenditures, which is herewith annexed.

All of which is respectfully submitted.

SAMUEL SANDS, Treasurer.

P. S.—The Treasurer would add, that he has on hand the sum of \$60, on the preceding year's account, which was attached for an old claim against the Society, and which is in suit in Baltimore County Court. S. S.

1859. RECEIPTS.	
Amount received from 564 members, at \$3 each, as per list herewith furnished, to date.....	\$1,602 00
Oct. 24. Am't rec'd from gates, 1st day.....	\$319 25
25. Do. do. 2d day.....	1,139 75
26. Do. do. 3d day.....	583 21
27. Do. do. 4th day.....	246 00
Total from gates.....	\$2,287 21
27. Am't from Mt. St. Mary's Col'ge, a do'n	10 00
27. Am't R. Moffit, for rent for Show grounds in Balt., after paying taxes for the year	50 50
27. Am't from Frederick Co. Soc'y, for hay	5 00
Total receipts.....	\$4,044 71

EXPENDITURES.	
Paid Premiums.....	\$1,946 00
For Postage and incidentals.....	30 15
Livery for horses at Frederick.....	4 00
Clerks, Gate Keepers, &c.....	379 72
Refunded feed money.....	102 74
Police.....	175 20
Printing and advertising.....	299 11
Rent of office in Baltimore.....	150 00
Lumber for extra stalls and pens.....	87 23
Music.....	60 00
Feed, (exclusive of hay, which was furnished by Frederick Co. Society).....	423 32
Marshal and his expenses.....	119 00
Rosettes and Ribbons.....	20 44
Sundries.....	42 00
Commissions to Treasurer.....	202 23—4,021 14

Balance on hand.....\$23 57

\*Note.—Commissions to Treasurer on \$4,044.71—\$202.22—of this sum he paid to Keefer, gate keeper, \$12—Cramer, ticket seller, \$6—Steiner, do. \$10.50—Gault, do. \$12—Connelly, gate keeper, \$12—Haller, do. \$12—Waring, assistant secretary, \$10—total, \$74.50. Nett amount of com. \$127.73.

### Soil Best Adapted to Cranberry Raising.

Low, swampy lands, in my opinion, are preferable. Nature herself seems to teach this lesson. Travel from Maine to Minnesota and you will meet with the Cranberry growing in a state of nature only in some swamp, or on its margin. You will also find that it has selected a swamp which is likely to be moist throughout the season, thus showing its great affinity for water. The swamp commends itself to the would-be-cultivator of the Cranberry for another reason, viz: than in its natural state it is generally useless for other purposes; and to fit it for other purposes would require a greater outlay than to fit it for Cranberry raising. For the latter, you need only a sufficient number of drains to remove surface water; more are not only unnecessary, but, in my opinion, detrimental. Then again, the ease with which most swamps can be flowed during fall, winter and spring, gives the cultivator an



advantage over weeds, which, on dry land, are not only more annoying, but can only be kept in check by a persevering use of the hoe or some equivalent. To accomplish this, one has only to close the outlets of his drains in fall as soon as the crop is gathered, and let them remain closed until the return of warm weather in the spring—a course which I would recommend wherever it is practicable. When this can be done, very little, if any, weeding or hoeing will be needed.

**Mode of Culture.**—Having drained the land as already intimated, those portions on which the water formerly remained most of the year, will usually be sufficiently clean for the immediate introduction of the plant. That part covered with a thick sod, I pare off, and throw the sods into heaps for decomposition—the result of which forms an excellent manurial preparation for fruit trees. In the clean surface thus exposed, I make shallow parallel trenches eighteen inches or two feet apart, and in the trenches place my vines, varying from one to eight feet in length. A slight covering every six or eight inches, completes the work of transplanting. At each point so covered, roots will be formed, and new vines will shoot off. Set in such soil, no loss from drought need be feared. In two or three years they will cover the ground. Being an evergreen, the month of April is a very good time, if not the best, for transplanting. If set in the fall, having no time to root, they are liable to be thrown out by frost.—*Cor. Rural New Yorker.*

### Flowers.

Of all the minor creations of God, flowers seem to be most completely the effusions of his love of beauty, grace and joy. Of all the minor objects which surround us, they are the least connected with our absolute necessities.

Vegetation might proceed, the earth might be clothed with a sober green; all the processes of fructification might be perfected without being attended by the glory with which the flower is crowned; but beauty and fragrance are poured over the earth in blossoms of endless varieties, radiant evidences of the boundless benevolence of the Deity. They are made solely to gladden the heart of man, for a light to his eyes, for a living inspiration of grace to his spirit, for a perpetual admiration.

The Greeks, whose souls preeminently sympathized with the spirit of grace and beauty in everything, were enthusiastic in their love, and lavish in their use of flowers. They scattered them in the porticoes of their temples, they were offered on the altars of some of their deities—they were strewn in their conquerors' path—on all occasions of festivity and rejoicing they were strewn about, or worn in garlands.

The guests at banquets were crowned with them—the bowl was wreathed with them; and whenever they wished to throw beauty, and to express gladness, like sunshine, they cast flowers.—*W. Howitt.*

**FRUIT STAINS IN LINEN.**—To remove them, rub the part on each side with yellow soap, then tie up a piece of pearl-ash in the cloth, &c., and soak well in hot water, or boil; afterwards expose the stained part to the sun and air until removed.

### On the Culture of Cotton.

BY GOV. HAMMOND, OF S. C.

So many of our Southern subscribers are directly interested in the Cotton culture, and so many especially in the Eastern portion of North Carolina have recently entered upon its cultivation, that we feel called on by several suggestions to that effect to furnish them matter bearing immediately on that important crop. We reproduce, therefore, here, the report made some years back by Gov. Hammond, of South Carolina, to the Barnwell Agricultural Society, on the culture of Cotton:

*"The ground cannot be too well prepared for Cotton.*—If it had rested one year, it should be broken flush, as early in the previous fall as possible, and spaded just before planting. If it has rested two years, or been planted the preceding year, let it be listed as early as it can be done, and two furrows thrown upon the list. Immediately upon planting, let two more furrows be thrown up, and balk broken out completely. The common method of running three furrows, and planting on it, throws the winter's portion of the crop-work upon the labourer, during crop time, and is inexcusable, unless heavy clearings are absolutely required. The reason for not listing after one year's rest, is, that the vegetable matter will be too abundant and too coarse to form a substratum to receive the tap root.

*Cotton should be planted early.*—It may increase the difficulty of getting a stand, and give the plant, for a long time, a puny appearance, but every stalk of cotton planted in March, or first week in April, that survives, may be readily distinguished, in any field that has been replanted later. It bears more, and earlier, and stands all the vicissitudes of June, July and August better. There are several methods of planting. Your committee recommends planting in spots, regularly measured by the dibble. It is somewhat tedious, though less so than is generally supposed, and certainly does not take as much time as both to drill and chop out; nor is time so valuable at that period, as when the latter operation is required, while a better and more regular stand may be secured. There is no land, or but little, in our district, in which cotton rows should be over three feet apart, or the cotton further than fourteen inches in the drill, one plant in a place. To make a large crop, there must be an abundant supply of stalks. When the weather is too wet to plant, time may be often saved by dropping the seed, but not covering until the ground is dryer. If, however, it cannot be covered in three or four days, it is time lost, for it must be replanted. Always cover lightly, under any circumstances. And always plant on something of a bed, in any land. It keeps cotton dryer, and affords more air when it is young. It enables you to get at it in working. By increasing the surface, it absorbs more moisture, if it is too dry; and gives out more if it is too wet, and in both cases, gives you the advantage of a vertical sun on the tap root, which hastens the maturity of the bolls—a vast desideratum in our climate. On this account, the bed can hardly be drawn too high at the last hoeing, in any season.

*In cultivating Cotton*, whether with the plough or hoe, the chief object is to keep down the grass, which is its greatest antagonist, bringing all, or almost all other evils in its train. It is not so essential, in the opinion of your committee, to keep the ground stirred, as is generally supposed, and by no means requisite to stir it deep; at all events, not to our light soil. If it be well prepared, deep ploughing is not only unnecessary for any of our crops, but often highly injurious to them, while it rapidly exhausts the land, by turning it up fresh, under a burning sun. Much unnecessary pains is usually taken, and time lost, to work the plant in a particular way, under the supposition that it is a peculiarly delicate one. If it survives its infancy, few plants are hardier. It is often found to reach maturity in the alleys, where the mules walk with the ploughs following, and the labourer tramps backward and forward. Sometimes it will bear fruit in turnrows used frequently for wagons, while it really seems to derive benefit from being bitten down almost to the ground by the animals; it will bear almost any usage better than it will that mortal enemy—grass.

The most critical operation in working cotton, is *thinning*. It should be done with great care, and if early, with the hand. In a dry year, it cannot be done too early after the plant is up. In a wet one, it may be profitably delayed, until it has begun to form, or later even. On the experience, observation and judgment of the planter, in this matter, everything depends, as each year brings its own rules with it. Where circumstances are favourable, early thinning is, of course, the best. Some planters always top their cotton. Others never do. Your committee are of opinion, that it seldom or never does harm to do so. But whether it is worth the trouble, is a doubtful question. Those who have no clearing, or other important employ for their hands, would lose nothing by devoting three or four days to this operation early in August. Those pressed for time might gain by omitting it.

*Too much pains cannot be taken in preparing Cotton for market*, for they are well remunerated by the additional price. The first thing to be attended to, is to have it gathered free of trash. With a little care, wonders can be effected in this way; and hands with a short training, will pick almost, if not quite, as much without trash as with it. It should never be gathered when wet. And here it may not be out of place to remark, that one of the very best sanitary rules of a plantation is, never to send out your hands to pick until the dew has nearly or quite disappeared. It saves time in the long run, as well as health and life. Cotton should never be ginned, until the seeds are so dry as to crack between the teeth. If damp, it is preferable to dry it in the shade, as the sun extracts the oil, and injures the staple. If, by accident, however, it gets wet, there is no alternative but to put it on the scaffold. It is of great importance to sort the cotton carefully into several qualities, in ginning and packing, for by mixing all qualities together, the average of the price is certainly lowered. A few old hands, or very young ones, breeding women, sucklers, and invalids, will earn excellent wages in a ginhouse, at this occupation. Neat packing is of no small importance, in the sale of cotton, and no little

taste may be displayed in making the packages. The advantage of square bags is universally known, and the committee are astonished that any other should ever be made now.

*Every kind of manure is valuable for Cotton.*—Every kind of compost, green crops turned in, cotton seed, and even naked leaves listed and left to rot, improve this crop. When planted on cotton seed, and sometimes on strong stable manure, it is more difficult to retain a stand, owing probably to the over stimulus of these strong manures. So, on leaves, unless well rotted, the cotton will long continue to die, in consequence of the leaves decaying away, and exposing the root too much to sun and rain. These difficulties may be avoided, by a little pains, and by no means justify the opinion entertained by some, that cotton should never be planted on freshly manured land. The only question is the cost of the manure. A great deal may be made on every plantation, without much trouble or expense, by keeping the stables and stable-yards, hog and cow pens, well supplied with leaves and straw. And also from pens of corn-cobs; sweepings from negro and fowlhouse yards, and rank weeds that spring up about them, collected together, and left to rot. Whenever the business is carried further, and a regular force is detached to make manure at all seasons, and entirely left out from the crop, it becomes the owner to enter into a close calculation of the cost and profits. In many agricultural operations, such a course, the experience of all countries has proved to be profitable, but these operations partake rather more of the farming and gardening, than planting character; and whether the same method will do for the extensive planting of short staple cotton, remains, in the opinion of your committee, yet to be tested. If anything like an average of past prices can be maintained, it is certain that more can be made by planting largely than by making manure as a crop. If, however, prices continue to fall, and the growing of cotton be confined to a few rich spots—those susceptible of high manuring—then our whole system must be changed, our crops must be curtailed, and staple-labour losing its past value, the comparative profit of a cotton and manure crop, will preponderate in favour of the latter. As a substitute for manuring on a large scale, resting and rotation of crops is resorted to. In our right level land, the practice of resting cannot be too highly recommended, and, by a judicious course, such as resting two and planting two, or at most three years, our lands may not only be kept up for ever, but absolutely improved. From rotation of crops, but little is gained for cotton. After small grain, whether from the exhausting nature of that crop, on light lands, or because the stubble keeps the ground always rough and porous, cotton will not do well. After corn, it is difficult to tend, as from our usual manner of cultivating corn, grass is always left in full possession of the field. It does best after cotton, or after a year's rest. Rest is the grand restorer, and the rotation chiefly required in the cultivation of cotton."

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SNOW-BALL CAKES.—One cup of sugar; 1 of butter;  $\frac{1}{2}$  cup buttermilk; 1 teaspoon soda; the whites of 3 eggs beat to a froth—bake in small tins.

### Sorghum Molasses.

The advices from all the North-western States leave no doubt whatever that the cultivation of the Chinese Sugar Cane has become general in all this region, and that the quantity of molasses made from it this season has been unusually large. The manufacture of molasses from the cane has been systematized throughout the whole West, by the erection of machinery like country mills, at certain localities, where the cane is brought by the farmers, to be ground, the juice compressed and boiled for a certain compensation, something similar to the manner in which "grists" are ground at flour mills. The following items, clipped from nine papers, give some important information on this point. In this connection, we may add, that it is not at all improbable that the demand for Louisiana molasses will be greatly diminished in the West this season.—*Cincinnati Price Current.*

The Goshen (Ind.) Times says: Elias Hess is grinding out the sorghum juice at the rate of 1,500 gallons per day. There will be a large amount of the syrup manufactured in the county. Next year every farmer should grow his own sweetening.

The Peoria Transcript is informed by Dr. T. J. Moore, of that county, that the probable amount of sorghum syrup that will be manufactured this fall by the farmers, within a circle of three miles around him, is one hundred barrels. A party of individuals have purchased a fine rolling-mill for crushing the cane, driven by horse-power. They have also one of Cook's patent evaporators, capable of turning off fifty gallons of syrup per day. The cane is crushed and the juice expressed for those who wish to make their own syrup, at two cents per gallon; or the parties take the cane at the mill and return it in syrup at eighteen cents per gallon. The mill is now turning out fifty gallons per day. Four horses are employed in crushing, and about twelve bushels of bituminous coal, at eight cents per bushel, are daily consumed in the evaporation. The syrup sells readily at fifty cents per gallon, being preferred to the best golden syrup. The Doctor, who has been engaged in the cultivation of sorghum for several years, estimates an acre of the produce of the cane, when the juice is well expressed from the same, at 250 gallons of syrup. It will be seen that this, after paying 18 cents per gallon for crushing and making into syrup, will yield the farmer \$80 for his labor in raising, stripping and taking the cane to the mill. Will wheat or corn pay as well?

The cost of the sorghum mill and power was \$130; of the evaporator \$70.

The Davenport (Iowa) Gazette gives the following as the process by which sorghum is manufactured in Henry county, in this State: The stalks of corn are stripped of their leaves and then passed between two cylinders, which are made to revolve by horse-power, very much in the same way that we have all seen apples crushed at a cider mill. This expresses the juice, which runs off in a light green colored stream as thick as one's finger, through a leaden tube to a reservoir. Thence the liquor is transferred to a shallow dish, having an evaporating surface of about forty square feet, under which there is a fire.—

The boiling is continued until five-sixth have been passed off, and the remainder is sorghum molasses of superior quality. About twenty-five gallons are made at once, and four boilings can be accomplished in a day. Two or three hands, with the services of a single horse, can thus make one hundred gallons per day; and the production will be worth half as many hard dollars in the market. With a large crop of cane, machinery upon a more extended scale, and the assistance of steam, the amount that could be turned out would be enormous.

The gentleman whose works our friend visited, Mr. McWhinney, of Dennington, informed him that the area of country from which he derived material to conduct the above operation was not more than four miles in diameter, and yet during the season he will probably manufacture altogether two thousand gallons.

The Illinois Farmer says: Mr. Goltra, at his sugar mill near Lincoln, is turning off forty gallons of excellent syrup per day. He intends to go into the operation largely next year.

The Freeport Journal says that there is a farmer in that county who will have one hundred barrels of sorghum syrup to sell this season. A good and profitable crop.

### The Feet in Winter Time.

No person can be well long whose feet are habitually cold; while securing for them dryness and warmth, is the certain means of removing a variety of annoying ailments.

The feet of some are kept more comfortable in winter if cotton is worn, while woollen suits others better. The wise course therefore is for each one to observe for himself, and act accordingly.

Scrupulous cleanliness is essential to the healthful warmth of the feet; hence, all, especially those who walk a great deal out of doors during the day in cold weather, should make it a point to dip both feet in cold water on rising every morning, and let them remain half ankle deep, for half a minute at a time, then rub and wipe dry, dress and move about briskly to warm them up. To such as cannot well adopt this course from any cause, the next best plan is to wash them in warm water every night before going to bed, taking the precaution to dry them by the fire most thoroughly before retiring; this, besides keeping the feet clean, preserves a natural softness to the skin and has a tendency to prevent and cure corns. Many a troublesome throat affection, and many an annoying headache will be cured if the feet are kept clean, warm, soft and dry.

The moment the feet are observed to be cold, the person should hold them to the fire, with the stockings off, until they feel comfortably warm. One of the several decided objections to a furnace heated house, is the want of a place to warm the feet, the registers being wholly unsuited for that purpose. Our wealthy citizens do themselves and their families a great wrong if they fail to have one room in the house, free for all, where a fire is kept burning from the first day of October until the first day of June, on a low grate, on a level with the hearth, after the pattern of Andrews & Dixon, of Chesnut street, Philadelphia; for

the closer the fire is to the hearth in a grate, or to the floor in a stove, the more comfortable is it, and the less heat is wasted.

This is one of the delights of the good old-fashioned wood fires, the very thought of which carries so many of us away to the glad scenes of childhood and early homes. It ought to be known in New York, where hard or anthracite coal is burned, that with one of the grates named, filled with hard coal and a few pieces of Liverpool or cannon put on top, nearly all the advantages of a wood fire are secured, at least as far as cheerfulness, comfort and warmth are concerned.

Some feet are kept cold by their dampness from incessant perspiration; in such cases cork soles are injurious, because they soon become saturated and maintain moisture for a long time. Soak a cork in water for a day or two and see. A better plan is to cut a piece of broadcloth the size of the foot, baste on it half an inch thickness of curled hair, wear it inside the stocking, the hair touching the sole; remove at night and place before the fire to dry until morning. The hair titillates the skin, thereby warming it some, and conducts the dampness to the cloth.

Scrupulous cleanliness of feet and stockings, with hair soles, are the best means known to us of keeping the feet warm when they are not cold from decided ill health. A tight shoe will keep the feet "as cold as ice," when a loose fitting one will allow them to be comfortably warm. A loose woollen sock over a loose shoe will maintain more warmth than the thickest soled tight fitting boot. Never start on a journey in winter, nor any other time, with a new shoe.—*Dr. W. W. Hall.*

### Feeding Hogs.

The *Valley Farmer* advocates the use of finely powdered charcoal mixed with the food of fattening animals, especially hogs, once or twice a week. It says that it serves as a medicine, and is also extremely fattening, either in itself or by rendering the food more available by strengthening and stimulating the digestive powers.

A hint to feeders, valuable though not new, may be found in the following, from the Boston "Cultivator:" Warm, dry pens should be provided for our swine, and their quiet and comfort studied as much as possible. By so doing we save many bushels of grain. The best feeders change the food frequently, and find they make a decided profit by so doing. If salt is occasionally given, it tends to keep up the appetite, as well as aids digestion. Too much rich food is injurious—the stomach can only assimilate a certain quantity at once. If an animal loses its appetite, the food should be at once changed, and very generally to something lighter, as roots, pumpkins or apples. Sour milk adds much to the growth of hogs, (and we have seen the statement well verified that raw meal mixed with sour milk, was much better for fattening pigs than any cooked food whatever.) Fermented food is much preferred by some feeders, and it is well to give it as a change, if no more.

Childhood itself is scarcely more lovely than a cheerful, kind and sunny old age.—*Mrs. Child.*

### Cotton Planter's Calendar.—January.

It is certainly to be looked upon as a misfortune when the cotton crop has not all been gathered, if not also baled and sent to market, before the close of the year. When the crop of the past year is thus disposed of before Christmas, the negroes, refreshed and rested by their holidays, enter with new spirit upon another year's labour, and will press on briskly with the preparations for a new crop. Their work is greatly lightened, by a judicious and pre-arranged application of it. Keep the plow in motion, whenever the weather and the state of the soil will permit. Frost may correct the bad effects of plowing when the soil is too wet; but do not trust to that when avoidable. By a timely beginning, an opportunity may be had for stirring up the water-furrow with a stout bull-tongue, drawn by two horses, previous to turning the first two furrows on it; the good effects of which will show themselves through the whole season. During dry weather, haul out and distribute manure and composts, to be spread as the plowing advances. Cotton seed, intended for manuring thin hill lands, may be composted in some hollow or nook of bottom-land, where there is a deposit of rich earth; mix intimately as it is hauled out. Manure is generally best applied broadcast; the roots of plants find it as they need it. Beat down cotton-stalks and chop corn-stalks short, so that the plow may cover them up. Under no circumstances burn the latter; nor the former unless very large. The rapid deterioration in the cotton lands of the South, has been occasioned, not by anything so peculiarly exhausting in that crop, as by the careless and injudicious course of tillage pursued. What that course has been, is but too well known.—Had nothing been removed from the land, but the cotton fibre; the low lands drained and protected from floods, which brought with them nothing enriching, but much, in the shape of pure sand and clay, that was injurious; the uplands guarded from washing, by side-hill ditches or guard-drains; an occasional, even though defective, rotation of crops adopted; and all of the cotton-stalks, leaves and seeds returned to the soil, its deterioration would have been so slight as to be scarcely perceptible.

No labour upon the plantation is better bestowed, than that which is applied to drawing the heavy cover of crab or crop-grass, pea-vine and corn-stalk, into the water furrow, with the hoes, early in the winter, and immediately casting a heavy furrow upon it. Cut and roll logs; and, after burning them, carefully pile up the ashes and burnt earth, as an excellent manure for young corn—giving it a start over the grass, and being destructive to the cut worm. During wet weather, overhaul and repair tools and implements; if not already done, get out and store away under shelter, a good supply of timber suitable for such purposes. Keep the pit-saws going, which can only be done economically where a good roomy shed has been built for the purpose, and a supply of logs hewed and hauled. Make and hang gates; bars are an intolerable nuisance. Repair building and erect new ones. The gin-house should be cleaned out and repaired immediately after the crop is baled; clean thoroughly and oil the machinery, gin-stand, press, &c. Put a close cover of brown sheeting over the gin-



stand, to keep out the dust. If any repairs or alterations are needed, now is the best time to have them done.

The women may be profitably and advantageously employed, during wet and unpleasant weather, at the wheel, the spinning-machine and the loom. Live stock must have attention, by affording proper shelter and supplying food at regular hours. Work animals, if they have been well cared for, will now be fat; try and keep them so, which cannot be done without the daily personal attention of the planter or overseer.—When a team enters on the spring's work in low condition, it cannot possibly prove efficient through the summer's. Ewes about to drop lambs, need shelter and nutritious food; and particularly during cold, wet weather.—*Affleck's Rural Almanac.*

### Fences—Many are Useless.

Some few years since we attempted to show the truth of the expression so often used, "that the fences of the United States were equal in cost to the national debt of Great Britain," and of this fact we have no doubt. In some parts of our country the fences cost double the value of the land they enclose, and still even in such districts we find farmers cutting up their fields into ten acre lots, and frequently those of smaller size; and we know of many farms where, notwithstanding the fact that the stock is all soiled and never permitted to roam at large, still the farm is all cut up by cross fences. We claim that a well regulated farm requires no fences, other than those necessary to shut out the cattle of neighbours who do not farm equally well.

It should be remembered that where chestnut and many other kinds of wood are used, the fences last but fourteen years, and therefore this immense expense is repeated at this short space of time. If the farmer had to fence his entire farm at one time instead of repairing its decay gradually, he might be reminded of its cost.

In Belgium, and many parts of France, they have no fences; the boundaries of lands are indicated by monuments; and this, too, even in districts where cattle are pastured, but generally in charge of a herdsman or shepherd.

But really, many of the fences of this country seem to be intended to keep corn and wheat apart, as if they could roam of their own accord, from the place where they are planted. In the Eastern States many a stone wall exists which is not only useless, but forever debars the farmer from using that part of the land covered by the wall. We have seen many such, which could have been more judiciously disposed of by depositing the stone on the top of drain tile in the bottom of thorough drains, at a cost no greater than that of building the fence, besides doubling the land in value by the effect of the under-drains. We freely admit that this rule does not apply to all parts of the country, for in some of the Southern States the amount of fencing is insufficient where pasturing is requisite, and for the purpose of keeping cattle of different ages apart. In such case hedges may be used with propriety, particularly if the roots are trimmed by proper plowing along their sides as frequently as the tops are trimmed, and thus preventing the roots of the

hedges from running to an unnecessary distance into the fields.

This is particularly true of the Osage Orange, the roots of which may be cut off by running a lifting sub-soil plow along the hedge, leaving all the space between the two sides of the hedge to be occupied by the roots. In putting out these hedges, after having thrown out a double furrow, and before putting in the plants, a sub-soil plow should be run through the bottom of this furrow, so as to insure deep disintegration and thereby secure success in the growth of the hedge, and induce roots to pass downward instead of outward during the early growth; or when thorns already grown and so frequently to be found in the woods, are used, then the plan adopted by Mr. Henry Lomas, near Columbia, South Carolina, may be used with profit. Mr. Lomas transplants the thorn-plants freshly taken from the woods, putting them in place in close proximity, and trimming off straggling branches in such way as to enable them to be close to each other, covering, as soon as in place, with the soil. When so treated the growth of every plant is almost certain, and if any one should fail it may be removed and replaced as soon as its failure is ascertained. Thus an efficient hedge may be made at once of a permanent character. He has made such hedges even of scrub oaks, and rendered them available. Common crab makes an impenetrable hedge, and is of very free growth.—*Working Farmer.*

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**CHURNING AND BUTTER-WORKING.**—The cream, says a writer in the Transactions of the Ohio State Agricultural Society, should be of the temperature of from 62 to 65 degrees Fahrenheit, experience demonstrating that a stroke at the rate of fifty or sixty per minute of the churn-dash, will separate the butter in about thirty minutes, this being the best method. Take care that every stroke of the dash strikes the top of the cream and the bottom of the churn. The churn should not, therefore, be too full to allow this. Rapid churning should be avoided.

### Storing and Feeding Turnips.

There is no small amount of difficulty in storing turnips safely. A little too much heat, and they are lost. Four years ago, I had one hundred and thirty bushels in a long-pit, sunk eighteen inches deep; the man who covered them was told to put on ten inches of earth, instead of which he put on eighteen inches; a ventilating hole was left at the top; the snow fell deep, and added to the warmth, and the whole decayed. My root house is built in a side hill. It is walled up with pine logs; poles are laid across from plate to plate, and it is filled in tightly with straw between them and the boarded roof. The earth is banked up the roof about two feet above the eaves. The front, where the entrance is, is of course out of the ground, and is double; that is, there is a space of five feet between the wall, and a tight board partition within. This root house was filled to the roof, and it held eight hundred bushels. Fearing they would heat, the inner door was left open, when a sudden and unexpected fall of the temperature took place on the 25th of November, going as low as 4 deg. below zero. The turnips at the exposed end of the building froze partially, but were quite good for use; the main bulk kept well, and were sweet and fresh in the spring, and some lasted till June. The root house is so constructed that at the end, level with the top of the bank, there is a trap door, into which the turnips are thrown from a tilt cart, so that there is no handling in the unloading. The turnips should be trimmed of roots, as well as the tops, as they are more liable to heat if stored with the roots on, on account of the earth which then adheres to them. I lost some bushels, and had I not discovered the mischief in time, I should have lost more one season from this cause. My root house was constructed in haste, of materials which were on the spot, otherwise I should prefer one of stone, with a roof of stout poles and earth well turfed.

**FEEDING.**—On this head I might content myself with saying that all the animals I have, live in part upon them, but it may perhaps be useful to go more into detail.

1st. My horses for three winters past have had very little grain until toward spring. Each has two large turnips, whole, but clean, night and morning, unless doing heavy work, when they have a feed of oats in the morning, instead of the turnips. They are very fat and full of life.

2d. My calves and lambs get turnips sliced with a machine twice a day, about half a gallon to each, and some hay. My sheep get them in the same way, (once a day last winter,) with pea or oat straw only, until March, when I began to give them hay.

3d. The young stock, one and two year olds, get turnips once a day, sliced as above, and straw until near spring, when they get hay; and they are in good growing condition—many farmers would say *fat*—all through the season.

I have raised mangle wurtzel for my milch cows, as the turnips give the butter a strong flavor, especially during the first half of the winter, after which I have found them less objectionable on this account. A bushel a day between three cows has been my allowance. If you want good beef, shut up a lean ox, give him three bushels a day of turnips and a little hay or cut oat straw

for ten weeks, and then, for the last fortnight of his life, a gallon of barley or corn meal a day, sprinkled over his turnips, and if there is any disposition about him to fatten, you will get as tender and juicy meat as any one can desire.—*John Mackelcan, M. D. in Genesee Farmer.*

### Old Scottish Servants.

The charge these old domestics used to take of the interests of the family, and the cool way in which they took upon them to protect those interests, sometimes led to very provoking, and sometimes to very ludicrous exhibitions of importance. A friend told me of a dinner scene illustrative of this sort of interference which had happened at Airth in the last generation. Mrs. Murray, of Abercainey, had been amongst the guests, and at dinner one of the family noticed that she was looking for the proper spoon to help herself with salt. The old servant, Thomas, was appealed to, that the want might be supplied. He did not notice the appeal. It was repeated in a more peremptory manner, "Thomas, Mrs. Murray has not a salt spoon;" to which he replied most emphatically, "Last time Mrs. Murray dined here, we lost a salt spoon."

I have heard of an old Forfarshire lady who, knowing the habits of her old and spoilt servant, when she wished for a note to be taken without loss of time, held it open and read it over to him, saying, "There, noo, Andrew, ye ken a' tat's in't; noo, dinna stop to open it, but just send it aff." Of another servant, when sorely tried by an unaccustomed bustle and hurry, a very amusing anecdote has been recorded. His mistress, a woman of high rank, who had been living in much quiet and retirement for some time, was called upon to entertain a very large party at dinner. She consulted with Nichol, her faithful servant, and all the arrangements were made for the great event. As the company were arriving, the lady saw Nichol running about in great agitation, and in his shirt sleeves. She remonstrated, and said as the guests were coming in he must put on his coat. "Indeed, my lady," was his excited reply, "indeed, there's sae muckle rinnin here and rinnin there, that I'm just distrackt. I hae cast'n my coat and waistcoat, and faith I dinna ken how lang I can thole (bear) my breeks."

There was a waggish old man cook at Duntrune for sixty years, and during three generations of its owners. In 1795, when his master was skulking, John found it necessary to take another service, and hired himself to Mr. Wedderburn, of Pearis; but he wearied to get back to Duntrune. One day the Laird of Pearis observed him putting a spit through a peat—it may have been for the purpose of cleaning it—be that as it may, the Laird inquired the reason for so doing, and John replied, "Indeed, sir, I am just going to roast a peat, for I fear I forget my trade." At the end of the two years he returned to Duntrune, where he continued to exercise his calling till near the close of life.—*Ramsay's Scottish Life and Character.*

Life is a beautiful night, in which not one star goes down, but another rises to take its place.

## SUNDAY READING.

Knowing that there are many diligent readers of the *Farmer* who have little time to read much else, and keep each monthly number by them for occasional reading and reference, we have undertaken on this page to furnish them matter which while it will occupy little time in the mere reading, will afford food for profitable reflection in times of rest, and for the day of rest. We put nothing here that we do not deem worthy of being read, and read again, and which will bear keeping.

The deist will not believe in revelation till every difficulty can be solved. The atheist will not believe in the being of a God, but upon the same terms. They must both die in their unbelief. They should believe upon sufficient evidence, and trust God for the rest. The atheist e. g. cannot reconcile the notion of a God with the existence of evil. But there is sufficient evidence for the existence of both. Here let us rest: God has his reasons for permitting evil, or he would not have permitted it. If he has been pleased to discover them in his word, or if we can discover them by a view of things, well; if not, still reasons there are; and, what we cannot know now, we shall know hereafter.

1st Tim. iv: 6—*"Nourished up in the words of faith."* It is one thing for a man to enlighten his understanding, to fill his imagination, and to load his memory; and another, to nourish his heart with it. A man nourishes himself with it, if he live upon it; and he lives upon it, if he change it into his own substance, if he practice it himself, if he render it proper and familiar unto himself, so as to make it the food and nourishment with which he ought to feed others.

Two learned physicians and a plain honest countryman, happening to meet at an inn, sat down to dinner together. A dispute presently arose between the two doctors, on the nature of affluents, which proceeded to such a height, and was carried on with so much fury, that it spoiled their meal, and they parted extremely indisposed. The countryman, in the mean time, who understood not the cause, though he heard the quarrel, fell heartily to his meat, gave God thanks, digested it well, returned in the strength of it to his honest labour, and at evening received his wages. Is there not sometimes as much difference between the polemical and practical Christian.

Grief is fruitless and unavailable in every case but one, namely, sin. We take to it kindly in every instance but that.

It is much to be wished, that Christians would apply themselves to obey the Gospel, instead of endeavouring to discover the mind of God concerning man before man was created, or the precise manner in which he touches the hearts of those who are converted. Salvation may be obtained without knowledge of this sort: besides, the wit of man may not be able to solve the difficulties that may be started on every side of these questions, upon which, obscure and intricate as

they are, if decisions are made and enforced as articles of faith, schisms and factions must ensue. But the mischief is done, and there is no remedy. Divines are therefore obliged to explain their own sentiments, and oppugn those of their adversaries respectively, as well as they are able. Thus strifes are increased, time lost, and edification neglected.

Religion, viewed at a proper point of sight, hath a very beautiful face. It is innocent, and very careful not to hurt any body, or, doing it inadvertently, is uneasy till it hath made him amends. It always means well, and does as well as ever it can. If it offends, it wants to be reconciled; confesses its faults, prays to be forgiven; is desirous to be informed; is less adventurous; more circumspect; sensible of its own frailty; forgives every body; abounds in good will; delights in good offices; keeps itself clean; is pleased with itself; looks cheerful; is cheerful. Why, then, will any one be so indiscreet as to dress this lovely form in such a manner, as to terrify the beholder, instead of inviting him to embrace it?

Many people, instead of minding their own business and securing their souls, amuse themselves with inquiring what will be the fate of Heathens, Jews, Turks, and other infidels, till they become little better than infidels themselves. "Lord, and what shall this man do?" "What is that to thee? Follow thou me."

When a Christian beholds sickness (his last especially,) coming towards him, he should address it, as St. Andrew did the cross, as that which he had long expected, and which would convey him to his blessed Master, by whose sufferings it had been sanctified. Let us also bear in mind, that even on the cross, St. Andrew ceased not to instruct and admonish those around him. He saluted the cross when he beheld it afar off, and entreated it to receive him as the Disciple of that Master who had himself been nailed upon it. He declared that it was dedicated and consecrated to the body of Christ, and was more adorned with his limbs than if inlaid with pearls; that it had long expected him, as it has expected his Master—Christ, before him; that he had long looked forward to it with impatience, and was now arrived at it with pleasure; wherefore he besought it to receive him, and restore him to his Master; that the same cross, by which he had been redeemed, might be the instrument of conveying him to his Redeemer. When come to the foot of the cross, he first prayed to Christ, and then exhorted the people to remain steadfast in the faith which he had delivered to them. He lived two days upon the cross, and during all that time never ceased to admonish and instruct the people.

Many fine books of religion and morality are already written. We are eager for more. But if we duly attended to the Gospel, should we want them? A single short direction from God himself is authoritative and decisive. A text would save us the trouble of reading many dissertations; and the time which we thus spend in learning, or rather, perhaps, pretending to learn, our duty might be spent in practicing it.





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